



# City Purchasing

## Current Contract Information



General Information 206-684-0444

### ALERTS

**This contract is not intended for anything that is more properly classified as Public Works.**

**This contract is limited to only those items expressly provided for in this contract.**

**Do not use for federally funded purchases without a specific review for your grant funding requirements.**

Contract Title <b>Mesh Wireless Network</b>			Contract # <b>00000002996</b>	
Buyer	Name: Michael Mears	Phone: 206-684-4570	E-Mail: Michael.mears@seattle.gov	
Vendor (name/address)	Cascade Networks, Inc 1111 - 11 <sup>th</sup> Avenue Longview, WA 98632		Vendor ID# 0000361297	
Vendor Contact	Contact: Brian Magnuson			
	Phone: 360-442-4440	Fax: 866-774-5320	E-Mail: <a href="mailto:brian@cni.net">brian@cni.net</a>	
WMBE Status	No WMBE ownership			
Description	• This contract is a result of a Request for Proposal RFP-DIT-2996			
Contract Term	May 23, 2012 through May 20, 2020			
Future Extension Option	Continuous one year extensions thereafter for licensing, maintenance, and support.			
Freight Terms	FOB Destination Prepaid and Allowed			
Prompt Pay Discount	Net 30			
Delivery ARO				
Order Instructions	For Use By: All City Departments		Order Limit: N/A	
Contracting Options	Blanket contract: This is mandatory use for those departments that seek to purchase these same materials and supplies.			
Comprehensive Contract	Current Pricing  0000002996 Financial Proposal For		Original ITB / RFP  RFPDIT2996_ITB.doc c	



# City Purchasing

## Current Contract Information

General Information 206-684-0444

Contract History	Contract Start date 5/23/2012	5/23/2012
	Change Order #1 -	
	Change Order #2 -	
	Change Order #3	
	Change Order #4-	
Vendor Emergency Contact Information		
Emergency Contact Name	Brian Magnuson, President	
Emergency Phone Number	360-442-4012	
Back-Up Emergency Phone Number	<b>360-442-1103</b>	
Contact information for company locations areas outside Seattle that can be called upon in an emergency Alternative Address	1111-11 <sup>th</sup> Avenue Longview, WA 98632 support@cni.net	



## BLANKET CONTRACT

The City of Seattle  
**PURCHASING SERVICES**  
700 - 5<sup>th</sup> Ave #4112  
PO Box 94687

Seattle, WA 98124-4687

Blanket Contract # 0000002996		Date 5/23/12	Change Order
Payment Terms Net 30	Freight Terms n/a		
Buyer: Michael Mears		Phone: 206-684-0470	Fax: 206-233-5155

Vendor ID: 0000361297  
Cascade Networks, Inc  
P.O. Box 887  
Longview, WA 98632

Contact: Brian Magnuson  
Phone #: 360-442-4440  
Fax #: 866-774-5320  
Email: [brian@cni.net](mailto:brian@cni.net)

**Ship To:**

See Below

**Bill To:**

See Below

CASCADE NETWORKS, INC. is awarded a Contract to provide CITY DEPARTMENTS WITH WIRELESS MESH NETWORK EQUIPMENT AND RELATED EQUIPMENT AND SERVICES EXCEPT INSTALLATION SERVICES. The Equipment and Related Equipment and Services are to be ordered via Work Order by the City on an "as needed" basis in accordance with the attached Contract. This Contract shall be effective for a period of eight (8) years from May 23, 2012 through May 20, 2020.

Orders shall be placed by CITY DEPARTMENTS. Invoices shall be mailed in duplicate to the City Department, Accounts Payable, per the attached list. Each invoice shall indicate Vendor Contract 0000002996. There are no minimum or maximum dollar limitations per Work Order.

This Contract is the result of the City's Request for Proposal #2996 initiated on February 21, 2012. Per Section 39 of the Contract, public agencies that file an Intergovernmental Cooperative Purchasing Agreement with the City of Seattle may purchase from this Contract.

The City does not guarantee utilization of this Contract. Actual utilization will be based on the City's need, availability, or any other factor deemed important to the City.

For all contractual matters, please contact Michael Mears, Purchasing Services at 206-684-4570 or [michael.mears@seattle.gov](mailto:michael.mears@seattle.gov)

**Authorized Signature/Date**

*Ram [Signature]* 5/23/12

**CONTRACT**  
**Between City of Seattle and Cascade Networks, Inc. For**  
**Wireless Mesh Network Equipment**  
**and Related Equipment and Services except Installation**

This Contract is made and entered into by and between City of Seattle ("City"), a Washington municipal corporation; and Cascade Networks, Inc., a corporation of the State of Washington, and authorized to do business in the State of Washington.

Vendor Business:	Cascade Networks, Inc.
Name of Representative:	Brian E. Magnuson, President
Vendor Address:	1111 11 <sup>th</sup> AVE, Longview, WA 98632
Vendor Phone:	360-442-4440
Vendor e-mail:	brian@cni.net

WHEREAS, the purpose of this contract is to procure a fully functional Port Security Video Surveillance System including Wireless Mesh Network Equipment and Related Equipment and Services except Installation Services;

WHEREAS, Vendor was selected as a result of Request for Proposal 2996 initiated February 21, 2012 as required by Seattle Municipal Code because expenditures are anticipated to exceed \$44,000 in value;

WHEREAS, the City of Seattle acting through the Seattle Police Department was awarded grant for this Project by the FY-2008 Port Security Grant for Sector Puget Sound Sector (FEMA);

WHEREAS, the funds for this purpose have been authorized by Ordinance 123879;

**NOW, THEREFORE**, in consideration of the terms, conditions, covenants, and performance of the Statement of Work contained herein, as attached and made a part hereof, the City and Vendor mutually agree as follows:

**1. Term of Contract**

This contract shall be effective for a period of eight (8) years from May 23, 2012 through May 20, 2020. Continuous one-year extensions shall continue thereafter for licensing, maintenance and support. Such extensions shall be automatic, and shall go into effect without written confirmation, unless the City provides advance notice of the intention to not renew. The Vendor may provide also provide a notice to not extend, but must provide such notice at least 45 days prior to the otherwise automatic renewal date.

**2. Survivorship**

All purchase transactions and deliverables executed pursuant to the authority of this Contract shall be bound by all of the terms, conditions, prices and price discounts set forth herein, notwithstanding the expiration of the initial term of this Contract or any extensions thereof. Further, the terms, conditions and warranties contained in this Contract that by their sense and context are intended to survive the completion of the

performance, cancellation or termination of this Contract shall so survive. In addition, the terms of the sections titled Overpayments to Vendor, Warranties, Publicity, Section Headings, Incorporated Documents and Order of Precedence, Publicity, Review of Vendor Records, Patent and Copyright Indemnification, Disputes and Limitations of Liability, shall survive the termination of this Contract.

**3. Statement of Work**

Vendor shall provide the products, services and tasks as described in the Contract attachments and in the subsequent Work Orders. The Statement of Work and Work Orders may also be termed "work" herein.

**4. Expansion Clause**

This contract may be expanded as mutually agreed, if such expansion is approved by the City Buyer. Expansions must be issued in writing from the City Buyer in a formal notice. The Buyer will ensure the expansion meets the following criteria collectively: (a) it could not be separately bid, (b) the change is for a reasonable purpose, (c) the change was not reasonably known to either the City or Contractors at time of bid or else was mentioned as a possibility in the bid (such as a change in environmental regulation or other law); (d) the change is not significant enough to be reasonably regarded as an independent body of work; (e) the change could not have attracted a different field of competition; and (f) the change does not vary the essential identity or main purpose of the contract. The Buyer shall make this determination, and may make exceptions for immaterial changes, emergency or sole source conditions, or for other situations as required in the opinion of the Buyer. Note that certain changes are not considered an expansion of scope, including an increase in quantities ordered, the exercise of options and alternates in the bid, or ordering of work originally identified within the originating solicitation. If such changes are approved, changes are conducted as a written order issued by the City Purchasing Buyer in writing to the Contractor.

**5. Work Order Process**

The Vendor shall furnish all systems pursuant to work orders issued under this Contract. Each work order shall be subject to all of the terms and conditions of this Contract, and incorporated into this Contract by this reference. The Vendor shall furnish all the goods and services ("deliverables") specified in the Work Order in an aggregate, single, complete transaction and not as separate items. For each work order under this Contract, Vendor shall commence work upon issuance of a notice to proceed by the City. Work orders under this Contract may be generated by the City under the following conditions:

- (1) The Work Order is within the scope of the original solicitation and contract or is within the allowed conditions for expansions under Section 4 (Expansion Clause) above;
- (2) A post-warranty annual maintenance agreement is accepted by the City;
- (3) The City issues a request to upgrade equipment, software, or to change quantities of any deliverable;
- (4) The City orders additional custom features or interfaces for the Systems prior to or after the acceptance period.

For any subsequent work order(s) requested by either party, the Vendor shall submit a

For any subsequent work order(s) requested by either party, the Vendor shall submit a detailed proposal for the change. The Vendor shall analyze, record, estimate and submit to the City, for its approval, the proposed scope for the changed or new work, a work schedule, and a rate or price adjustment for completion of the work to be changed or added. Once this proposal is received and approved by the City, a new work order will be issued for the changed or additional work. Upon the City's written approval and notice to proceed, the Vendor shall implement the change or additional work and invoice for the changed or additional work consistent with the City's approval notice and the terms and conditions of this Contract.

The City may, at its option, add, delete or modify any part of any work order by giving Vendor notice of such change within the time period specified in the applicable work order. Within seven (7) days after the date of such notice, the Vendor shall deliver to the City an amended work order reflecting the change in description, schedule and/or dollar amount due using the unit prices as proposed for the specific work order in Vendor's Proposal.

The Vendor shall not proceed unless authorized by a mutually agreed upon amendment. Such extra work shall be in compliance with Section 4 (Expansion Clause) and shall be authorized in writing only by the City Purchasing Buyer, Department of Finance and Administration. Any costs incurred due to the performance of extra work will not be reimbursed until or unless an amendment is agreed upon.

The City does not guarantee utilization of goods and services provided for in this Contract for which the City has not issued a work order(s). The City may itself provide these goods or services or may award contracts to other Vendors for similar goods and services. In such instances, the Vendor shall not be responsible for the operation, performance or maintenance for equipment so obtained.

**6. Documentation**

Unless specified otherwise in Contract attachments, Vendor will provide two (2) complete sets of documentation for each Software/Hardware order or System delivered, including technical and maintenance information, and, where applicable, installation information. Vendor shall also provide two (2) complete sets of documentation for each updated version of Software that Vendor provides. Vendor shall provide the documentation on or before the date Vendor delivers its respective Software. There shall be no additional charge for this documentation or the updates, in whatever form provided. Vendor's Software documentation shall be comprehensive, well structured, and indexed for each reference. If Vendor maintains its technical, maintenance and installation documentation on a web site, Vendor may fulfill the obligations set forth in this section by providing Purchaser access to its web-based documentation information.

The City reserves the right to withhold payment for a deliverable, modification or enhancement until it receives all documentation associated with the same.

**7. Invoicing and Payment Procedures**

Vendor shall only invoice upon the City's approval of the deliverable and in a manner consistent with the payment schedule attached, if any. Once the City has received and approved the invoice, the City will provide payment within thirty (30) days. The

aggregate amount represents the full and final amount to be paid by the City.

Payment will be made within 30 days of acceptance of the deliverable by the City's Project Manager and receipt of a correct invoice. If applicable, the invoice should itemize the number of billable hours or days worked and the deliverables performed for the period covered by the invoice. Additional payment terms or invoice instructions may be mutually agreed upon by the City and the Vendor.

The Vendor shall include the Agreement number on invoices and submit them the ordering City department

The City shall not be obligated to pay any other compensation, fees, charges, travel and living reimbursements, prices or costs, nor shall Vendor charge any additional compensation for completing the work order of the Statement of Work. All costs invoiced to the City, shall be associated with an active and open work order.

Payment does not constitute whole or partial acceptance; City acceptance of the System shall only occur by formal written notice to that effect.

#### **7.1. Advance Payment Prohibited**

The City does not accept requests for early payment, down payment or advance partial payment, unless the Bid or Proposal Submittal specifically allows such pre-payment proposals or alternates within the bid process. Maintenance subscriptions may be paid up to one year in advance provided that should the City terminate early, the amount paid shall be reimbursed to the City on a prorated basis; all other expenses are payable net 30 days after receipt and acceptance of satisfactory compliance.

#### **7.2. Disputed Work**

Notwithstanding all above, if the City believes in good faith that some portion of Work has not been completed satisfactorily, the City may require Vendor to correct such work prior to The City payment. In such event, the City will provide to Vendor an explanation of the concern and the remedy that the City expects. The City may withhold from any payment that is otherwise due, an amount that the City in good faith finds to be under dispute, or if the Vendor does not provide a sufficient remedy, The City may retain the amount equal to the cost to The City for otherwise correcting or remedying the work not properly completed.

### **8. Taxes, Fees and Licenses**

#### **8.1 Taxes**

Where required by state statute, ordinance or regulation, Vendor shall pay for and maintain in current status all taxes that are necessary for contract performance. Unless otherwise indicated, The City agrees to pay State of Washington sales or use taxes on all applicable consumer services and materials purchased. No charge by the Vendor shall be made for federal excise taxes and The City agrees to furnish Vendor with an exemption certificate where appropriate.

#### **8.2 Fees and Licenses**

Vendor shall pay for and maintain in a current status, any license fees, assessments, permit charges, etc., which are necessary for contract performance. It is the Vendor's sole responsibility to monitor and determine any changes or the enactment of any

subsequent requirements for said fees, assessments, or charges and to immediately comply with said changes during the entire term of this Contract. Vendor must pay all custom duties, brokerage or import fees where applicable as part of the contract price. Vendor shall take all necessary actions to ensure that materials or equipment purchased are expedited through customs.

**8.3 Calculation of Sales Tax**

Vendor is to calculate and enter the appropriate Washington State and local sales tax on the invoice. Tax is to be computed on new items after deduction of any trade-in, in accordance with WAC 458-20-247.

**9. Time is of the Essence**

The City has an immediate need to implement the System and/or Software and equipment for the management and operation of the City. Therefore, time is of the essence in all matters relating to this Contract

**10. License for Use**

As part of the price of the System, the Vendor hereby grants to the City, and the City accepts from the Vendor, for so long as the City continues to use the System, a non-exclusive, fully paid, royalty free, perpetual license to unlimited use of the Software and related documentation for use on the System acquired by the City under this Contract.

**11. Department of Homeland Security FEMA** All contractors and any subcontracts paid with Department of Homeland Security FEMA funding shall adhere to the Department of Homeland Security FEMA Special Conditions set between the City of Seattle, as applicable, and the Special Conditions attached as Attachment #2 in RFP-DIT-2996.

**12. Software Upgrades and Enhancements**

Vendor shall:

- a. Supply at no additional cost updated versions of the Software to operate on upgraded versions of operating systems, upgraded versions of firmware, or upgraded versions of hardware;
- b. Supply at no additional cost updated versions of the Software that encompass improvements, extensions, maintenance updates, error corrections, or other changes that are logical improvements or extensions of the original Software supplied to City; and
- c. Supply at no additional cost interface modules that are developed by Vendor for interfacing the Software to other Software products.

**13. Warranties**

**13.1 Warranty of the System**

Commencing on the date that the City issues its Final Acceptance Certificate, and extending for a period of three (3) years, Vendor warrants that the Software furnished hereunder shall be free from programming errors and that the Software and hardware shall be free from defects in workmanship and materials and shall operate in conformity with the performance capabilities, Statement of Work, functions and other descriptions



and standards applicable thereto and as set forth in this Contract including but not limited to the City's Request for Proposals; that the services shall be performed in a timely and professional manner by qualified professional personnel; and that the services, Software and Hardware shall conform to the standards generally observed in the industry for similar services, Software and hardware. If Vendor is not the original Software or hardware manufacturer, Vendor shall obtain in writing the manufacturer's consent to pass through all Software and hardware warranties for the City's benefit. During this warranty period, Vendor shall replace or repair any defect appearing in the Software or hardware, or deficiency in service provided at no additional cost to the City.

### **13.2 Warranty Against Planned Obsolescence**

The Vendor warrants that the products proposed to and acquired by the City under this Contract are new and of current manufacture, and that it has no current plans for announcing a replacement line that would be marketed by Vendor as a replacement for any of the products provided to the City under this Contract and would result in reduced support for the product line within which the System furnished to the City is contained. The Vendor further warrants that, in the event that a major change in hardware, software, or operating system occurs that radically alters the design architecture of the System and makes the current design architecture obsolete within three (3) years after full execution of this Contract, and if the City continues its annual maintenance Contract with the Vendor, the Vendor shall provide the City with a replacement hardware, software, or operating system(s) that continues the full functionality of the systems, at no extra cost to the City.

### **13.3 No Surreptitious Code Warranty**

The Vendor warrants to the City that no copy of the licensed Software provided to the City contains or will contain any Self-help Code or any Unauthorized Code as defined below. This warranty is referred to in this Contract as the "No Surreptitious Code Warranty."

As used in this Contract, "Self-help Code" means any back door, time bomb, drop dead device, or other Software routine designed to disable a computer program automatically with the passage of time or under the positive control of a person other than the licensee of the Software. The term "Self-help Code" does not include Software routines in a computer program, if any, designed to permit an owner of the computer program (or other person acting by authority of the owner) to obtain access to a licensee's computer system(s) (e.g. remote access via modem) for purposes of maintenance or technical support.

As used in this Contract, "Unauthorized Code" means any "virus," "Trojan horse," "worm" or other Software routines or Equipment components designed to permit unauthorized access to disable, erase, or otherwise harm Software, Equipment, or data or to perform any other actions. The term Unauthorized Code does not include Self-help Code.

The Vendor shall defend City against any claim, and indemnify the City against any loss or expense arising out of any breach of the No Surreptitious Code Warranty.

### **13.4 Title Warranty and Warranty against Infringement**

The Vendor warrants and represents that the hardware and Software provided under

this Contract is the sole and exclusive property of the Vendor or that the Vendor is authorized to provide full use of the hardware and Software to the City as provided herein. The Vendor warrants that it has full power and authority to grant the rights granted by this Contract to the City without the consent of any other person or entity.

In the event of any claim by a third party against the City for software used in the United States asserting a patent, copyright, trade secret, or proprietary right violation involving the System acquired by the City hereunder or any portion thereof, Vendor shall defend, at its expense, and shall indemnify the City against any loss, cost, expense, or liability arising out of such claim, whether or not such claim is successful; provided, however, that Vendor is notified by the City in writing within a reasonable time after the City first receives written notice of any such claim, action, or allegation of infringement. In the event a final injunction or order is obtained against the City's full use of either the System or any portion thereof as a result of any such claim, suit or proceeding, and if no further appeal of such ruling is practicable, the Vendor shall, as mutually agreed upon and at the Vendor's expense:

- a. procure for the City the right to continue full use of the System; or
- b. replace or modify the same so that it becomes non-infringing (which modification or replacement shall not affect the obligation to ensure the System conforms with applicable Statement of Work); or
- c. if the product was purchased and the actions described in item (a) or (b) of Section 11.4, are not practicable, re-purchase the product from the City at a price mutually agreed upon, which shall relate to the value and utility of the product to the City; or
- d. if the System was leased, licensed, purchased or rented, and the actions described in item (a), (b), or (c) of Section 11.4, are not practicable, remove such System from the City's site(s) and pay the City promptly after notification for all direct and consequential damages suffered by the City as a result of the loss of the infringing product and any other continued utility of which to the City is adversely affected by the removal of the infringing product, and hold the City harmless from any further liability therefore under any applicable Order, Settlement, or other Contract.

In no event shall the City be liable to Vendor for any lease, rental, or maintenance payments after the date, if any, that the City is no longer legally permitted to use the System because of such actual or claimed infringement. In the event removal or replacement of the System is required pursuant to this paragraph, Vendor shall use reasonable care in the removal or modification thereof and shall, at its own expense, restore the City's premises as nearly to their condition immediately prior to the installation of the System as is reasonably possible.

No settlement that prevents the City from continuing to use the Software, other products or Software documentation as provided in this Contract shall be made without the City's prior written consent. In all events, the City shall have the right to participate at its own expense in the defense of any such suit or proceeding through counsel of its own choosing.

The indemnification obligation set forth in this section shall survive the expiration or earlier termination of this Contract.

### **13.5 No Liens**

The Vendor warrants that the Software and Equipment is the sole and exclusive

property of the Vendor and that the Vendor is authorized to provide full use of the Software to the City as provided herein and that such Software is not subject to any lien, claim or encumbrance inconsistent with any of the City's rights under this Contract and that the City is entitled to and shall be able to enjoy quiet possession and use of the Software and Equipment without interruption by Vendor or any other person making a claim under or through the Vendor or by right of paramount title.

### **13.6 Maintenance Services Warranty**

The Vendor warrants that, in performing maintenance services, the Vendor shall strictly comply with the descriptions and representations as to the services, including performance capabilities, accuracy, completeness, characteristics, Statement of Work, configurations, standards, function and requirements, which appear in this Contract and in the Vendor's response to the City's Request for Proposal. Its products shall be uniform in appearance and clean and presentable in accordance with generally applicable standards in the industry. Errors or omissions committed by the Vendor in the course of providing Services shall be remedied by the Vendor at its own expense.

### **13.7 Equipment Warranty**

The Vendor warrants and represents that the Equipment provided to meet the requirements of the Statement of Work shall be free from all defects, shall be in good operating order, and shall operate in conformity with the descriptions and standards as set forth in the Vendor's Proposal and the City's RFP for a period of three (3) years from and after the Acceptance Date. During the warranty period, Vendor shall promptly, without additional charge, repair or replace the equipment or any part thereof that fails to function according to the Vendor's Statement of Work or the Statement of Work of the manufacturer thereof.

### **13.8 Merchantability and Fitness Warranty**

Vendor represents and warrants that the Software, other products and Software Documentation will be merchantable and will be fit for the particular purposes established in the City's RFP and the Vendor's response to the City's RFP.

### **13.9 Warrant of Compliance with Applicable Law**

The Vendor warrants that the System, and the manufacture and production thereof, are in compliance with any and all applicable laws, rules, and regulations.

### **13.10 Date Warranty**

The Vendor warrants that all Software provided under this contract: (a) does not have a life expectancy limited by date or time format; (b) will correctly record, store, process, present calendar dates; (c) will lose no functionality, data integrity, or performance with respect to any date; and (d) will be interoperable with other software used by City that may deliver date records from the Software, or interact with date records of the Software ("Date Warranty"). In the event a Date Warranty problem is reported to Vendor by City and remains unresolved after three calendar days, at City's discretion, the Vendor shall send, at Vendor's sole expense, at least one qualified and knowledgeable representative to City's premises. This representative will continue to address and work to remedy the failure, malfunction, defect, or nonconformity on City's premises. This Date Warranty shall last perpetually. In the event of a breach of any of these representations and warranties, Vendor shall indemnify and hold harmless the City from and against any and all harm, injury, damages, costs, and expenses incurred by

Purchaser arising out of said Breach.

#### **13.11 Physical Media Warranty**

Vendor warrants to City that each licensed copy of Software provided by Vendor is and will be free from physical defects in the media that tangibly embodies the copy (the "Physical Media Warranty."). The Physical Media Warranty does not apply to defects discovered more than thirty (30) calendar day after the date of Acceptance of the Software copy by the City. Vendor shall replace, at Vendor's expense, including shipping and handling costs, any Software copy provided by Vendor that does not comply with this Warranty.

#### **13.12 Survival of Warranties and Representations**

The representations and warranties of the Vendor made pursuant to this Contract shall survive the delivery of the System, the payment of the purchase price, and the expiration or earlier termination of this Contract.

#### **14. Reauthorization Code**

Vendor's Software shall not require a reauthorization code in order for the Software supplied through this Contract to remain functional upon City's movement of the Software to another computer system.

#### **15. Title to Equipment**

Upon successful completion of Acceptance Testing and receipt of City's letter of Acceptance (or upon delivery, if there is no Acceptance Testing), Vendor shall convey to City good title to the Equipment free and clear of all liens, pledges, mortgages, encumbrances, or other security interests.

Transfer of title to the Equipment shall include an irrevocable, fully paid-up, perpetual license to use the internal code (embedded software) in the Equipment. If City subsequently transfers title to the Equipment to another entity, City shall have the right to transfer the license to use the internal code with the transfer of Equipment title. A subsequent transfer of this software license shall be at no additional cost or charge to either City or City's transfer.

#### **16. Ownership of Deliverables**

Except for the licensed System Software and its related documentation, all data and work products produced under this Contract shall be considered work made for hire under the U.S. Copyright Act, 17 U.S.C. 101 et seq, and shall be owned by the City.

#### **17. Risk of Loss, Freight, Overages or Underages**

Regardless of FOB point, Vendor agrees to bear all risks of loss, injury, or destruction of goods and materials ordered herein which occur prior to delivery and acceptance. Such loss, injury, or destruction shall not release Vendor from any obligations under. Prices include freight prepaid and allowed. Vendor assumes the risk of every increase, and receives the benefit of every decrease, in delivery rates and charges. Shipments shall match the Work Order; any unauthorized advance or excess shipment is returnable at Vendor's expense.

#### **18. Protection of Persons and Property**

### **18.1 Person**

The Vendor and the City shall each take reasonable precautions for the safety of employees of the other, and shall each comply with all applicable provisions of federal, state, and local laws, codes and regulations to prevent or avoid any accident or injury to a person on, about or adjacent to any premises where work under this Contract is being performed.

### **18.2 Property**

The Vendor shall take reasonable steps to protect the City's property from injury or loss arising in connection with the Vendor's performance or failure of performance under this Contract.

### **18.3 No Smoking**

The Vendor shall not allow any employee of the Vendor or any sub or agent thereof to smoke inside any City facility.

### **18.4 OSHA/WISHA**

The Vendor certifies that products are designed and manufactured to meet the current federal and state safety and health regulations, including Federal Occupational Safety and Health Act of 1970 (OSHA), the Washington Industrial Safety and Health act of 1973 (WISHA). Vendor shall indemnify, defend, and hold the City harmless from all damages assessed against the City as a result of the failure of the products furnished under this Contract to so comply.

### **18.5 Workers Right to Know**

"Right to Know" legislation required the Department of Labor and Industries to establish a program to make employers and employees more aware of the hazardous substances in their work environment. WAC 296-62-054 requires among other things that all manufacturers/distributors of hazardous substances, including any of the items listed on this ITB, RFP or contract bid and subsequent award, must include with each delivery completed Material Safety Data Sheets (MSDS) for each hazardous material. Additionally, each container of hazardous material must be appropriately labeled with: the identity of the hazardous material, appropriate hazardous warnings, and the Name and Address of the chemical manufacturer, improper, or other responsible party.

Labor and Industries may levy appropriate fines against employers for noncompliance and agencies may withhold payment pending receipt of a legible copy of the MSDS. OSHA Form 20 is not acceptable in lieu of this requirement unless it is modified to include appropriate information relative to "carcinogenic ingredients" and "routes of entry" of the product(s) in question.

## **19. Contract Notices, Deliverable Materials and Invoices Delivery**

Official Contract notices shall be delivered to the following addresses (or such other address (es) as either party may designate in writing):

**If delivered by the U.S. Postal Service, it must be addressed to:**

Michael Mears, Senior Buyer  
City of Seattle Purchasing and Contracting Services  
PO Box 94687  
Seattle, WA 98124-4687

**If delivered by any other company, it must be addressed to:**

Michael Mears  
Senior Buyer  
City of Seattle Purchasing and Contracting Services  
Seattle Municipal Tower  
700 5<sup>th</sup> Ave., #4112  
Seattle, WA 98104-5042

Phone: 206-684-4570

E-Mail: [michael.mears@seattle.gov](mailto:michael.mears@seattle.gov)

Project work and communications shall be delivered to the City Project Manager:

City of Seattle  
Department of Information Technology  
PO Box 94709  
Seattle, WA 98124-4709  
Attention: Mark Schmidt

**20. Representations**

Vendor represents and warrants that it has the requisite training, skill and experience necessary to provide Work and is appropriately accredited and licensed by all applicable agencies and governmental entities.

**21. Inspection**

Work shall be subject, at all times, to inspection by and with approval of the City, but the making (or failure or delay in making) such inspection or approval shall not relieve Vendor of responsibility for performance of the Work in accordance with this Contract, notwithstanding the City's knowledge of defective or noncomplying performance, its substantiality or the ease of its discovery. Vendor shall provide sufficient, safe, and proper facilities and equipment for such inspection and free access to such facilities.

**22. Women and Minority Subcontracting, Non-Discrimination**

- **Employment Actions:** Vendor shall not discriminate against any employee or applicant for employment because of race, religion, creed, age, color, sex, marital status, sexual orientation, gender identity, political ideology, ancestry, national origin, or the presence of any sensory, mental or physical handicap, unless based upon a bona fide occupational qualification. Vendor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their creed, religion, race, age, color, sex, national origin, marital status, political ideology, ancestry, sexual orientation, gender identity, or the presence of any sensory, mental or physical handicap. Such action shall include, but not be limited to employment, upgrading, promotion, demotion, or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay, or other forms of compensation and selection for training.
- In accordance with Seattle Municipal Code Chapter 20.42, Vendor shall actively solicit the employment and subcontracting of women and minority group members

when there are commercially useful purposes for fulfilling the scope of work.

- In the event Subcontracting is considered appropriate and feasible to contract performance, the Vendor shall develop a Subcontracting Plan, which also may be referred to as an Inclusion Plan. The Subcontracting (Inclusion) Plan shall specify the Vendor's affirmative efforts and an agreement to the City for subcontracting to women and minority businesses, and/or diverse employment. The Subcontracting (Inclusion) Plan, as submitted and/or as agreed upon with the City thereafter, shall be incorporated as a material part of the Contract. In preparing the Subcontracting (Inclusion) Plan, Vendors shall actively solicit qualified, available and capable women and minority-owned businesses to perform the subcontracting work for the contract. The Vendor shall submit the Subcontracting (Inclusion) Plan to the City with the solicitation and/or prior to contract execution. At the request of the City, Vendor shall promptly furnish evidence of the Vendor's compliance with these requirements, which may include a list of all subcontractors and/or WMBE subcontractors, and may include a request for copies of the executed agreements between the Vendor and subcontractors, invoices and/or performance reports.
- If upon investigation, the Director of Finance and Administration finds probable cause to believe that the Vendor has failed to comply with the requirements of this Section, the Vendor shall be notified in writing. The Director of Finance and Administration shall give Vendor an opportunity to be heard with ten calendar days' notice. If, after the Vendor's opportunity to be heard, the Director of Executive Administration still finds probable cause, s/he may suspend the Contract and/or withhold any funds due or to become due to the Vendor, pending compliance by the Vendor with the requirements of this Section.
- Any violation of the mandatory requirements of this Section, or a violation of Seattle Municipal Code Chapter 14.04 (Fair Employment Practices), Chapter 14.10 (Fair Contracting Practices), Chapter 20.45 (City Contracts – Non-Discrimination in Benefits), or other local, state, or federal non-discrimination laws, shall be a material of contract for which the Vendor may be subject to damages and sanctions provided for by the Vendor Contract and by applicable law. In the event the Vendor is in violation of this Section shall be subject to debarment from City contracting activities in accordance with Seattle Municipal Code Section 20.70 (Debarment).

**23. Assignment and Subcontracting**

Neither part shall assign or subcontract any of its obligations under this Contract without mutual written consent, which shall not be granted or withheld without reasonable cause. Any subcontract made by the Vendor shall incorporate by reference all the terms of this Contract except for Equal Benefit provisions. Vendor shall ensure that all subcontractors comply with the obligations and requirements of the subcontract, except for Equal Benefit provisions. Seattle's consent to any assignment or subcontract shall not release the Vendor from liability under this Contract, or from any obligation to be performed under this Contract, whether occurring before or after such consent, assignment, or subcontract.

**24. Key Persons and Subcontractors**

The Vendor shall not transfer, reassign or replace any individual or subcontractor that is determined to be essential or that has been agreed upon in the Vendor's Subcontracting (Inclusion) Plan, without express written consent of Seattle. If during the term of this



Contract, any such individual leaves the Vendor's employment or any named subcontract is terminated for any reason, Vendor shall notify Seattle and seek approval for reassignment or replacement with an alternative individual or subcontractor. Upon Seattle's request, the Vendor shall present to Seattle, one or more subcontractors or individual(s) with greater or equal qualifications as a replacement. Continued achievement of the Subcontracting (Inclusion) Plan that was incorporated into this Contract by reference, if any, and the associated subcontract awards, aspirational goals and efforts, will be one of the considerations in approval of such changes. Seattle's approval or disapproval shall not be construed to release the Vendor from its obligations under this Contract.

**25. Equal Benefits**

- a. Compliance with SMC Ch. 20.45: The Vendor shall comply with the requirements of SMC Ch. 20.45 and Equal Benefits Program Rules implementing such requirements, under which the Vendor is obligated to provide the same or equivalent benefits ("equal benefits") to its employees with domestic partners as the Vendor provides to its employees with spouses. At The City's request, the Vendor shall provide complete information and verification of the Vendor's compliance with SMC Ch. 20.45. Failure to cooperate with such a request shall constitute a material breach of this Contract. (For further information about SMC Ch. 20.45 and the Equal Benefits Program Rules call (206) 684-0430 or review information at <http://cityofseattle.net/contract/equalbenefits/>.)
- b. Remedies for Violations of SMC Ch. 20.45: Any violation of this Section shall be a material breach of Contract for which the City may:
  - o Require the Vendor to pay actual damages for each day that the Vendor is in violation of SMC Ch. 20.45 during the term of the Contract; or
  - o Terminate the Contract; or
  - o Disqualify the Vendor from bidding on or being awarded a City contract for a period of up to five (5) years; or
  - o Impose such other remedies as specifically provided for in SMC Ch. 20.45 and the Equal Benefits Program Rules promulgated thereunder.

**26. General Legal Requirements**

**26.1 General Requirement**

Vendor, at no expense to The City, shall comply with all applicable laws of the United States and the State of Washington; the Charter and ordinances of The City, and rules, regulations, orders, and directives of their administrative agencies and the officers thereof. Without limiting the generality of this paragraph, the Vendor shall specifically comply with the following requirements of this section.

**26.2 Licenses and Similar Authorizations**

Vendor, at no expense to The City, shall secure and maintain in full force and effect during the term of this Contract all required licenses, permits, and similar legal authorizations, and comply with all requirements thereof.

**27. Indemnification**

Vendor shall defend, indemnify, and save City harmless from and against all claims, including reasonable attorneys' fees resulting from such claims, by third parties for any or all injuries to persons or damage to property of such third parties arising from



intentional, willful, or negligent acts or omissions of Vendor, its officers, employees, or agents, or Subcontractors, their officers, employees or agents. Vendor's obligations to defend, indemnify, and save City harmless shall not be eliminated or reduced by any alleged concurrent City negligence.

**28. Insurance**

Unless specified otherwise, the following is in effect. Contractor shall maintain at its own expense at all times during the term of this Contract the following insurance with limits of liability consistent with those generally carried by similarly situated enterprise:

1. **MINIMUM COVERAGES AND LIMITS OF LIABILITY.** Vendor shall at all times during the term of this Agreement maintain continuously, at its own expense, minimum insurance coverages and limits of liability as specified below:
  - A. **Commercial General Liability (CGL) insurance, including:**
    - Premises/Operations
    - Products/Completed Operations
    - Personal/Advertising Injury
    - Contractual
    - Independent Contractors
    - Stop Gap/Employers Liability
      - with minimum limits of liability of \$1,000,000 each occurrence combined single limit bodily injury and property damage ("CSL"), except:
      - \$1,000,000 Personal/Advertising Injury
      - \$1,000,000 each accident/disease/employee Stop Gap/Employer's Liability
  - B. **Automobile Liability insurance, including coverage for owned, non-owned, leased or hired vehicles with a minimum limit of liability of \$1,000,000 CSL.**
  - C. **Worker's Compensation for industrial injury to Vendor's employees in accordance with the provisions of Title 51 of the Revised Code of Washington.**
2. **CITY AS ADDITIONAL INSURED.** The City of Seattle shall be included as an additional insured under CGL and Automobile Liability insurance for primary and non-contributory limits of liability.
3. **NO LIMITATION OF LIABILITY.** The limits of liability specified herein in subparagraph 1.A. are minimum limits of liability only and shall not be deemed to limit the liability of Vendor or any Vendor insurer except as respects the stated limit of liability of each policy. Where required to be an additional insured, the City of Seattle shall be so for the full limits of liability maintained by Vendor, whether such limits are primary, excess, contingent or otherwise.
4. **MINIMUM SECURITY REQUIREMENT.** All insurers must be rated A- VII or higher in the current A.M. Best's Key Rating Guide and licensed to do business in the State of Washington unless coverage is issued as surplus lines by a Washington Surplus lines broker.

5. **SELF-INSURANCE.** Any self-insured retention not fronted by an insurer must be disclosed. Any defense costs or claim payments falling within a self-insured retention shall be the responsibility of Vendor.
6. **EVIDENCE OF COVERAGE.** Prior to performance of any scope of work under paragraph 5. Vendor shall provide certification of insurance acceptable to the City evidencing the minimum coverages and limits of liability and other requirements specified herein. Such certification must include a copy of the policy provision documenting that the City of Seattle is an additional insured for commercial general liability insurance on a primary and non-contributory basis. Certification should be issued to The City of Seattle, Risk Management Division, Seattle, WA and shall be delivered in electronic form either as an email attachment to [riskmanagement@seattle.gov](mailto:riskmanagement@seattle.gov) or faxed to (206) 470-1270.

**29. Review of Vendor Records**

Vendor and its Subcontractors shall maintain books, records, documents and other evidence relating to this Contract, including but not limited to protection and use of City's Confidential Information, and accounting procedures and practices which sufficiently and properly reflect all direct and indirect costs of any nature invoiced in the performance of this Contract. Vendor shall retain all such records for six (6) years after the expiration or termination of this Contract. Records involving matters in litigation related to this Contract shall be kept for six (6) years from the date of expiration or termination of this Contract whichever is later.

All such records shall be subject at reasonable times and upon prior notice to examination, inspection, copying or audit by personnel so authorized by the City's Contract Administration and/or the Office of the Auditor and federal officials so authorized by law, rule, regulation or contract, when applicable, at no additional cost to the City. During this Contract's term, Vendor shall provide access to these items at a mutually agreeable time and place. Vendor shall be responsible for any audit exceptions or disallowed costs incurred by Vendor or any of its Subcontractors. Vendor shall incorporate in its subcontracts this section's records retention and review requirements.

It is agreed that books, records, documents and other evidence of accounting procedures and practices related to Vendor's cost structure, including overhead, general and administrative expenses, and profit factors shall be excluded from City's review unless the cost or any material issue under this Contract is calculated or derived from these factors.

**30. Independent Contractor**

The relationship of Vendor to The City by reason of this Contract shall be that of an independent Vendor. This Contract does not authorize Vendor to act as the agent or legal representative of the City for any purpose whatsoever. Vendor is not granted any express or implied right or authority to assume or create any obligation or responsibility on behalf of or in the name of The City or to bind The City in any manner or thing whatsoever.

It is the intention and understanding of the Parties that Vendor shall be an independent

Vendor and that the City shall be neither liable for nor obligated to pay sick leave, vacation pay or any other benefit of employment, nor to pay any social security or other tax that may arise as an incident of employment. The Vendor shall pay all income and other taxes as due. Industrial or other insurance that is purchased for the benefit of the Vendor shall not be deemed to convert this Contract to any employment contract. It is recognized that Vendor may or will be performing professional Work during the term for other parties and that The City is not the exclusive user of the Work that Vendor will provide.

**31. No Conflict of Interest.**

Vendor confirms that Vendor does not have a business interest or a close family relationship with any City officer or employee who was, is, or will be involved in the Vendor selection, negotiation, drafting, signing, administration, or evaluating the Vendor's performance.

**32. No Gifts or Gratuities.**

Vendor shall not directly or indirectly offer anything of value (such as retainers, loans, entertainment, favors, gifts, tickets, trips, favors, bonuses, donations, special discounts, work or meals) to any City employee, volunteer or official, that is intended, or may appear to a reasonable person to be intended, to obtain or give special consideration to the Vendor. Promotional items worth less than \$25 may be distributed by the vendor to City employees if the Vendor uses the items as routine and standard promotions for business. Any violation of this provision may result in termination of this Contract. Nothing in this Contract prohibits donations to campaigns for election to City office, so long as the donation is disclosed as required by the election campaign disclosure laws of the City and of the State.

**33. Current and Former City Employees, Officers, and Volunteers.**

Throughout the life of the contract, Vendor shall provide written notice to City Purchasing and the City Project Manager of any current or former City employees, officials or volunteers that are working or assisting on solicitation of City business or on completion of the awarded contract. The Vendor must be aware of the City Ethics Code, Seattle Municipal Code 4.16 and advise Vendor workers as applicable.

**34. Contract Workers with 1,000 Hours**

Throughout the life of the Contract, Vendor shall provide written notice to City Purchasing and the City Project Manager of any contract worker that shall perform more than 1,000 hours of contract work for the City within a rolling 12-month period. Such hours include those that the contract worker performs for the Contract, and any other hours that the worker performs for the City under any other contract. Such workers are subject to the requirements of the City Ethics Code, Seattle Municipal Code 4.16. The Vendor shall advise their Contract workers as applicable.

**35. Errors & Omissions: Correction**

Vendor shall be responsible for the professional quality, technical accuracy, and the coordination of all designs, drawings, Statement of Work, and other services furnished by or on the behalf of the Vendor under this Contract. The Vendor, without additional compensation, shall correct or revise any errors or omissions in the designs, drawings, Statement of Work, and/or other Vendor services immediately upon notification by The City. The obligation provided for in this section with respect to any acts or omissions during the term of this Contract shall survive any termination or expiration of this

Contract and shall be in addition to all other obligations and liabilities of the Vendor.

**36. Intellectual Property Rights**

**36.1 Patent**

Vendor hereby assigns to The City all rights in any invention, improvement, or discovery, together with all related information, including but not limited to, designs, Statement of Work, data, patent rights and findings developed in connection with the performance of Contract or any subcontract hereunder. Notwithstanding the above, the Vendor does not convey to The City, nor does The City obtain, any right to any document or material utilized by Vendor that was created or produced separate from this Contract or was preexisting material (not already owned by The City), provided that the Vendor has clearly identified in writing such material as preexisting prior to commencement of the Work. To the extent that preexisting materials are incorporated into the Work, the Vendor grants The City an irrevocable, non-exclusive, fully-paid, royalty-free right and/or license to use, execute, reproduce, display, and transfer the preexisting material, but only as an inseparable part of the Work.

**36.2 Copyright**

All materials and documents prepared by Vendor in connection with the Contract and Vendor shall retain the copyright (including the right of reuse) whether or not the Contract Statement of Work is completed. Vendor grants to The City a non-exclusive, irrevocable, unlimited, fully-paid, royalty-free license to use every document and all other materials prepared by the Vendor for The City under this Contract. If requested by The City, a copy of all drawing, prints, plans, field notes, reports, documents, files, input materials, output materials, the media upon which they are located (including cards, tapes, discs and other storage facilities), software programs or packages (including source code or codes, object codes, upgrades, revisions, modifications, and any related materials) and/or any other related documents or materials which are developed solely for, and paid for by, The City in connection with the performance of the Work, shall be promptly delivered to The City.

The City may make and retain copies of such documents for its information and reference in connection with their use on the project. The Vendor does not represent or warrant that such documents are suitable for reuse by The City, or others, on extensions of the project, or on any other project. Vendor represents and warrants that it has all necessary legal authority to make the assignments and grant the licenses required by this Section.

**37. Confidentiality**

1. The Vendor understands that any records (including but not limited to bid or proposal submittals, the Agreement, and any other contract materials) it submits to the City, or that are used by the City even if the Vendor possesses the records, are public records under Washington State law, RCW Chapter 42.56. Public records must be promptly disclosed upon request unless a statute exempts them from disclosure. The Vendor also understands that even if part of a record is exempt from disclosure, the rest of that record generally must be disclosed.

2. If the City receives a public disclosure request made pursuant to RCW 42.56, the City will not assert an exemption from disclosure on behalf of the Vendor. For materials that the Vendor has properly marked, the City may notify the Vendor of the request and postpone disclosure for ten business days to allow the Vendor to file a lawsuit seeking

an injunction preventing the release of documents pursuant to RCW 42.56.540. Any notification is provided as a courtesy and is not an obligation on behalf of the City. Unless the Vendor obtains and serves an injunction upon the City before the close of business on the tenth business day after the date of the notification, the City may release the documents. It is the Vendor's discretionary decision whether to file the lawsuit.

3. In order to request that material not be disclosed until receipt of notification of a public disclosure request, you must identify the specific materials and citations very clearly on the City Vendor Questionnaire that you believe are exempt from disclosure. The City will not withhold material for notification if the Vendor simply marked confidential on the document header, footer, stamped on all pages, or offered a generic statement that the entire document is protected. Only material specifically listed and properly cited on the Vendor Questionnaire will be temporarily withheld until the City provides notification of a public disclosure request.

4. If the Vendor does not obtain and serve an injunction upon the City within 10 business days of the date of the City's notification of the request, the Vendor is deemed to have authorized releasing the record.

5. If the Vendor does not submit a request within the Vendor Questionnaire, the Vendor is deemed to have authorized releasing any and all information submitted to the City.

6. Notwithstanding the above, the Vendor must not take any action that would affect (a) the City's ability to use goods and services provided under this Agreement or (b) the Vendor's obligations under this Agreement.

7. The Vendor will fully cooperate with the City in identifying and assembling records in case of any public disclosure request.

**38. Publicity**

No news release, advertisement, promotional material, tour, or demonstration related to the City's purchase or use of the Vendor's product or any work performed pursuant to this Contract shall be produced, distributed or take place without the prior, specific approval of the City's Project Manager or his/her designee.

**39. Interlocal Agreement Act**

RCW Chapter 39.34 allows cooperative purchasing between public agencies, non profits and other political subdivisions. Public agencies that file an Intergovernmental Cooperative Purchasing Agreement with the City of Seattle may purchase from Contracts established by the City. The seller agrees to sell additional items at the bid prices, terms and conditions, to other eligible governmental agencies that have such agreements with the City. The City of Seattle accepts no responsibility for the payment of the purchase price by other governmental agencies. Should the Vendor require additional pricing for such purchases, the Vendor is to name such additional pricing upon Offer to the City.

**40. Key Persons**

Vendor shall not transfer or reassign any individual designated in this Contract as essential to the Work, without the express written consent of the City, which consent shall not be unreasonably withheld. If during the Contract term, any such individual

leaves the Vendor's employment, the Vendor shall present to the City one or more individual(s) with greater or equal qualifications as a replacement, subject to City approval, which shall not be unreasonably withheld. The City's approval or disapproval shall not be construed to release the Vendor from its obligations under this Contract.

**41. Background Checks**

The City may require background/criminal checks during the course of the contract for essential City purposes. The City does not intend to request background checks/verifications unless essential in the opinion of the City. The City may require any contract worker that has access to locations/systems/data to undergo a background/criminal check before that worker can have authorized access to those locations/systems/data.

**42. Dispute Resolution**

The parties shall endeavor to resolve any dispute or misunderstanding that may arise under this Contract concerning Vendor's performance, if mutually agreed to be appropriate, through negotiations between the Vendor's Project Manager and the City's Project Manager, or if mutually agreed, referred to the City's named representative and the Vendor's senior executive(s). Either party may discontinue such discussions and may then pursue other means to resolve such disputes, or may by mutual agreement pursue other dispute alternatives such as alternate dispute resolution processes. Nothing in this dispute process shall in any way mitigate the rights, if any, of either party to terminate the contract for cause or convenience.

**43. Termination**

- a. For Cause: The City may terminate this Contract if the Vendor is in material breach of any of the terms of this Contract, and such breach has not been corrected to the City's reasonable satisfaction in a timely manner.
- b. For City's Convenience: The City may terminate this Contract at any time, without cause and for any reason including the City's convenience, upon written notice to the Vendor.
- c. Nonappropriation of Funds: The City may terminate this Contract at any time without notice due to nonappropriation of funds, whether such funds are local, state or federal grants, and no such notice shall be required notwithstanding any notice requirements that may be agreed upon for other causes of termination.
- d. Acts of Insolvency: The City may terminate this Contract by written notice to Vendor if the Vendor becomes insolvent, makes a general assignment for the benefit of creditors, suffers or permits the appointment of a receiver for its business or assets, becomes subject to any proceeding under any bankruptcy or insolvency law whether domestic or foreign, or is wound up or liquidated, voluntarily or otherwise.
- e. Termination for Gratuities and/or Conflict of Interest: The City may terminate this Contract by written notice to the Vendor if The City finds that a conflict of interest exists in violation of the city Ethics Code, or that any gratuity in the form of entertainment, a gift, or otherwise, was offered to or given by the Vendor or any agent therefore to any City official, officer or employee.

- f. Notice: The City is not required to provide advance notice of termination. Notwithstanding, the RFP Coordinator may issue a termination notice with an effective date later than the termination notice itself. In such case, the Vendor shall continue to provide products and services as required by the RFP Coordinator until the effective date provided in the termination notice.
- g. Actions Upon Termination: In the event of termination not the fault of the Vendor, the following shall apply:
1. Vendor shall be paid for all products and services that have been ordered and accepted prior to the effective termination date or ordered before the effective termination date and ultimately accepted by the RFP Coordinator, together with any reimbursable expenses then due.
  2. For System development projects, Vendor shall be paid for progress performed that has been accepted by the City on or prior to the effective termination date, but in no event shall such compensation exceed the maximum compensation to be paid under the Contract.
  3. The Vendor agrees that such payment shall fully and adequately compensate the Vendor and all subs for all profits, costs, expenses, losses, liabilities, damages, taxes, and charges of any kind whatsoever (whether foreseen or unforeseen) attributable to the termination of this Contract.
  4. Upon termination for any reason, the Vendor shall provide the City with the most current design documents, contract documents, writings and other product it has completed to the date of termination, along with copies of all project-related correspondence and similar items. The City shall have the same rights to use these materials as if termination had not occurred.
  5. In the event this Contract expires or is terminated for any reason, the City shall retain its rights in all Products, services and system progress that is in transit or delivered prior to the effective termination date.

**44. Force Majeure— Suspension and Termination**

This section applies in the event that either party is unable to perform the obligations of this contract because of a Force Majeure event as defined herein, to the extent that the Contract obligations must be suspended in full. A Force Majeure event is an event that prohibits performance and is beyond the control of the party. Such events may include natural or man-made disasters, or an action or decree of a superior governmental body, which prevents performance.

Force Majeure under this Section shall only apply in the event that performance is rendered not possible by either party or its agents. Should it be possible to provide partial performance that is acceptable to the City under Section 45 (Emergencies or Disasters), Section 45 below shall instead be in force.

Should either party suffer from a Force Majeure event and is unable to provide performance, such party shall give notice to the remaining party as soon as practical and shall do everything possible to resume performance.

Upon receipt of such notice, the party shall be excused from such performance as is affected by the Force Majeure Event for the period of such Event. If such Event affects the delivery date or warranty provisions of this Agreement, such date or warranty period shall automatically be extended for a period equal to the duration of such Event.



**45. Major Emergencies or Disasters:**

The City may undergo an emergency or disaster that may require the Vendor to either increase or decrease quantities from normal deliveries, or that may disrupt the Vendor's ability to provide normal performance. Such events may include, but are not limited to, a storm, high wind, earthquake, flood, hazardous material release, transportation mishap, loss of any utility service, fire, terrorist activity or any combination of the above. In such events, the following shall apply.

- a. The City shall notify the Vendor that the City is experiencing an emergency or disaster, and will request emergency and priority services from the Vendor.
- b. Upon such notice by the City, the Vendor shall provide to the City goods and/or services in the quantities and schedule specified by the City, following the conditions named in this Section.
- c. The City of Seattle shall be the customer of first priority for the Vendor. The Vendor shall provide its best and priority efforts to provide the requested goods and/or services to the City of The City in as complete and timely manner as possible. Such efforts by the Vendor are not to be diminished as a result of Vendor providing service to other customers.
- d. If the Vendor is unable to respond in the time and/or quantities requested by the City, the Vendor shall make delivery as soon as practical. The Vendor shall immediately assist the City to the extent reasonable, to gain access to such goods and/or services. This may include:
  - o Coordinating with other distributors or subsidiaries beyond those in the local region to fulfill order requests;
  - o Offering the City substitutions provided the Vendor obtains prior approval from the City for such substitution.
- e. The Vendor shall charge the City the price determined in this Contract for the goods and services provided, and if no price has been determined, it shall charge the City a price that is normally charged for such goods and/or services (such as listed prices for items in stock). However, in the event that the City's request results in the Vendor incurring unavoidable additional costs and causes the Vendor to increase prices in order to obtain a fair rate of return, the Vendor shall charge the City a price not to exceed the cost/profit formula found in this Contract.

**46. Debarment**

In accordance with SMC Ch. 20.70, the Director of Finance and Administration or designee may debar a Vendor from entering into a Contract with the City or from acting as a sub on any Contract with the City for up to five years after determining that any of the following reasons exist:

- a. Vendor has received overall performance evaluations of deficient, inadequate, or substandard performance on three or more City Contracts.
- b. Vendor failed to comply with City ordinances or Contract terms, including but not limited to, ordinance or Contract terms relating to small business utilization, discrimination, prevailing wage requirements, equal benefits, or apprentice utilization.
- c. Vendor abandoned, surrendered, or failed to complete or to perform work on or in connection with a City Contract.



- d. Vendor failed to comply with Contract provisions, including but not limited to quality of workmanship, timeliness of performance, and safety standards.
- e. Vendor submitted false or intentionally misleading documents, reports, invoices, or other statements to the City in connection with a Contract.
- f. Vendor colluded with another Vendor to restrain competition.
- g. Vendor committed fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a Contract for the City or any other government entity.
- h. Vendor failed to cooperate in a City debarment investigation.
- i. Vendor failed to comply with SMC 14.04, SMC Ch. 14.10, SMC Ch. 20.42, or SMC Ch. 20.45, or other local, State, or federal non-discrimination laws.

The Director may issue an Order of Debarment following the procedures specified in SMC 20.70.050. The rights and remedies of the City under these provisions are in addition to any other rights and remedies provided by law or under the Contract.

#### **47. Recycle Products Requirements**

As required by Seattle Municipal Code 20.60, whenever practicable, Vendor shall use reusable products, recyclable products and recycled-content products including recycled content paper on all documents submitted to the City.

Vendors are to duplex all materials that are prepared for the City under this Contract, whether such materials are printed or copied, except when impracticable to do so due to the nature of the product being produced. Vendors are to use 100% post consumer recycled content, chlorine-free paper in such products that are produced for the City, whenever practicable, and to use other paper-saving and recycling measures in business they conduct with and for the City. This directive is executed under the Mayor's Executive Order, issued February 13, 2005.

#### **48. Section Headings, Incorporated Documents and Order of Precedence**

- a. The headings used herein are inserted for convenience only and do not define or limit the contents.
- b. No verbal agreement or conversation between any officer, agent, associate or employee of The City and any officer, agency, employee or associate of the Vendor prior to the execution of this Contract shall affect or modify any of the terms or obligations contained in this Contract.
- c. The following documents are incorporated. Where there is conflict or gap between or among these documents, the controlling document will be resolved in the following order of precedence (first listed being the precedent):
  - i) Applicable federal, state and local statutes, laws and regulations;
  - ii) Sections of this Contract
  - iii) All Attachments to this Contract, including Pricing, Management, and Technical Specification Agreements
  - iv) Licensing and Maintenance Agreements
  - v) RFP issued by the City

- vi) Vendor Proposal Response
- vii) City Purchase Order documents issued, if any; and
- viii) Vendor or manufacturer publications or written materials Vendor made available to City and used to effect the sale.

**49. Entire Agreement**

This Contract sets forth the entire agreement between the parties with respect to the subject matter hereof. No changes to provisions, price, quality, or Statement of Work of this Contract will be effective without the written consent of both parties.

**50. Authority for Modifications and Amendments**

The Parties hereto reserve the right to make amendments or modifications to this Contract by written agreement, signed by an authorized representative of each party. No modification, amendment, alteration, or waiver of any section or condition of this Contract shall be effective or binding unless it is in writing and signed by the City Buyer and Vendor Contracting Officer. Only the City Buyer shall have the express, implied, or apparent authority to alter, amend, modify, add, or waive any section or condition of this Contract on behalf of the City.

**51. Severability**

If any term or provision of this Contract is determined by a court of competent jurisdiction to be invalid or unenforceable, the remainder of this Contract shall not be affected thereby, and each term and provision of this Contract shall be valid and enforceable to the fullest extent permitted by law.

**52. Miscellaneous Provisions**

- a. **Binding Contract:** This Contract shall not be binding until signed by both parties. The provisions, covenants and conditions in this Contract shall bind the parties, their legal heirs, representatives, successors, and assigns.
- b. **Applicable Law/Venue:** This Contract shall be construed and interpreted in accordance with the laws of the State of Washington. The venue of any action brought hereunder shall be in the Superior Court for King County.
- c. **Remedies Cumulative:** Rights under this Contract are cumulative and nonexclusive of any other remedy at law or in equity.
- d. **Waiver:** No term or condition or breach thereof shall be deemed waived, except by written consent of the party against whom the waiver is claimed. Any waiver of the breach of any term or condition shall not be deemed to be a waiver of any preceding or succeeding breach of the same or any other covenant, term or condition. Neither acceptance by The City of Vendor performance nor payment to Vendor for any portion of Work shall constitute a waiver by The City of the breach or default of any term or condition unless expressly agreed to by The City in writing.
- e. **Negotiated Contract:** The parties acknowledge that this is a negotiated Contract, that they have had the opportunity to have this Contract reviewed by their respective legal counsel, and that the terms and conditions of this Contract are not to be construed against any party on the basis of such party's draftsmanship thereof.

- f. Attorneys' Fees: Subject to the indemnification provisions set forth in this Contract, if any action or suit is brought with respect to a matter or matters covered by this Contract, each party shall be responsible for all its own costs and expenses incident to such proceedings, including reasonable attorneys' fees.
- g. Authority: Each party represents that it has full power and authority to enter into and perform this Contract, and the person signing this Contract on behalf of each party has been properly authorized and empowered to enter into this Contract. Each party further acknowledges that it has read this Contract, understands it, and shall be bound by it.

IN WITNESS WHEREOF, in consideration of the terms, conditions, and covenants contained herein, or attached and incorporated and made a part hereof, the parties have executed this Contract by having their authorized representatives affix their signatures below.

(Vendor)

City of Seattle

By Brian Magnuson 5-23-2012  
Signature Date

Brian Magnuson  
(Printed Name)

President  
Title

By Nancy Locke 5-23-12  
Signature Date

Nancy Locke  
NANCY LOCKE, City Purchasing and  
Contracting Services Director

# Port Security Video Surveillance System with Wireless Mesh Network - Financial Price Proposal Form

Item Descriptions		Quantities	Unit Price	Extended price	C. Future annual maintenance Option (Rate assumes 5-Yr agreement)							
A. Hardware and software cost					Years 1-3	Year 4	Year 5	Year 6	Year 7	Year 8		
Note: All HW/SW below price must include three years part and labor warranties					Included in unit price	72,000	72,000	72,000	72,000	72,000		
A.1 Mesh wireless system					Included in unit price	n/a	n/a	n/a	n/a	n/a		
Wireless Access point (WAP) per ea					Included in unit price	n/a	n/a	n/a	n/a	n/a		
Antennas (as required per WAP) per ea					Included in unit price	n/a	n/a	n/a	n/a	n/a		
WAP Installation material including feed lines, power supplies and mounting hardware per ea					Included in unit price	n/a	n/a	n/a	n/a	n/a		
Mesh wireless system management software per LT					Included in unit price	4,588	4,588	4,588	4,588	4,588		
Fiber Gateway Equipment if needed per ea					Included in unit price							
A.2 Police Port Security Surveillance system					Included in unit price	3,215	3,258	3,258	3,258	3,258		
Video Core Routers per ea					Included in unit price	6,615	6,945	7,292	7,657	8,040		
Pan, Tilt and Zoom Camera with installation per ea					Included in unit price							
16 Channel network video recorder with installation per ea					Included in unit price	4,766	5,708	5,708	5,708	5,708		
Marine grade Motion Stabilized Camera with installation per ea					Included in unit price	36,642	40,224	44,274	48,852	54,024		
Internet Connection from SPD Headquarter Building with 40 Mbps bandwidth per LT					Included in unit price	n/a	n/a	n/a	n/a	n/a		
Equipment, if needed, for command vehicles and Police patrol vehicles to access live video via laptops per ea					Included in unit price	n/a	n/a	n/a	n/a	n/a		
A.3 SDOT/METRO Rapid Ride System					Included in unit price	2,856	2,856	2,856	2,856	2,856		
Wireless Access point (WAP) per ea					Included in unit price	n/a	n/a	n/a	n/a	n/a		
Antennas (as required per WAP) per ea					Included in unit price	n/a	n/a	n/a	n/a	n/a		
WAP Installation material including feed lines, power supplies and mounting hardware per ea					Included in unit price	n/a	n/a	n/a	n/a	n/a		
Fiber Gateway Equipment if needed per ea					Included in unit price							
Total						\$ 130,682.00	\$ 135,579.00	\$ 139,976.00	\$ 144,919.00	\$ 150,474.00		

B: Professional Services											
	not to exceed number of hours	Hourly rates	Extended cost	D: Future time and material maintenance Option							
Note: For the WAP installation team, it will consist of what the vendor proposed WAP field install staff plus two Seattle Department of Transportation (SDOT) crew members with bucket truck, plus a DoIT technical project engineer. The City will not pay for Vendor's travel, living and per diem costs.				Hourly labor cost	Years 1-3	Year 4	Year 5	Year 6	Year 7	Year 8	
Project manager	350	\$ 125.00	\$ 43,750.00	Wireless engineer	Not applicable	110	115	120	125	130	
Core network configuration engineer	275	\$ 105.00	\$ 23,625.00	Wireless technician	Not applicable	100	105	110	115	120	
Wireless System Design engineer	400	\$ 100.00	\$ 40,000.00								
WAP field install engineer	700	\$ 115.00	\$ 80,500.00								
WAP Bench test and Pre-assembly technicians	225	\$ 90.00	\$ 20,250.00								
Wireless mesh system management training (ea)	13	\$ 1,500.00	\$ 19,500.00								
Wireless mesh network acceptance testing	50	\$ 115.00	\$ 5,750.00								
Camera installation	120	\$ 115.00	\$ 13,800.00								
Police Port Security surveillance system training, if needed			\$ -								
Police Port Security surveillance system acceptance testing			\$ -								
SDOT/METRO rapid Ride system installation	50	\$ 115.00	\$ 5,750.00								
SDOT/METRO rapid Ride system training, if needed (ea)	13	\$ 1,500.00	\$ 19,500.00								
SDOT/METRO rapid Ride system acceptance testing	30	\$ 115.00	\$ 3,450.00								
Documentation	100	\$ 100.00	\$ 10,000.00								
Use of Test equipment	100	\$ 100.00	\$ 10,000.00								
Total			\$ 295,875.00								
Tax @ 9.5% (Equipment Only)			\$ 207,443.20								
Proposal Grand Total			\$ 2,686,930.83								

Cascade Networks does not foresee the need for the City of Seattle to keep parts and equipment on-hand for maintaining the system. over and above the monitoring tools that the City is purchasing. Our maintenance proposal would cover those requirements.

Cascade Networks does not foresee the need for the City of Seattle to keep parts and equipment on-hand for maintaining the system, over and above the monitoring tools that the City is purchasing. Our maintenance proposal would cover those requirements.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
<b>A.</b>	<b>Network Specifications</b>		
A.1	The Network must support multiple simultaneous active fiber gateways.	Yes	A Cisco
A.2	The Network must provide Multicast capability.	Yes	Aruba Mesh's Active Video Transport (AVT) leverages the multicasting capability built into the Adaptive Wireless Routing protocol to provide concurrent and efficient multi-path transmission of the high-quality video to multiple destinations.
A.3	The Network must provide seamless roaming across multiple subnets without data or connectivity loss.	Yes	Fast roaming is critical for video and voice. Aruba's innovative MobileMatrix technology facilitates fast roaming across IP subnets with session persistence at speeds up to 60 miles an hour.
A.4	The Network must provide seamless roaming between mWAP's while:		
A.4.a	a. Providing a maximum mWAP hand-off of 50 mS.	Yes	Aruba's MobileMatrix™, allows Wi-Fi clients to move between wireless mesh routers in less than 50 milliseconds, maintaining a seamless connection for latency-sensitive applications, such as video and voice.
A.4.b	b. Not requiring re-authentication to maintain a VPN client connection.	Yes	With roaming handoff times of 2-3 milliseconds, delay-sensitive and persistent applications such as voice and video experience uninterrupted performance. Sessions do not drop as clients roam throughout the network.
A.5	The Network must provide a broad range of configuration flexibility to address differing connectivity requirements across multiple user groups.	Yes	Aruba's unified access architecture extends the enterprise to remote locations, over private WANs or using the public Internet, giving users the same access experience regardless of location.
A.6	The Network must be capable of supporting mesh topologies consisting of four or more mWAP hops.		The access network is separate from the backhaul network. Each mesh router has multiple radios dedicated to backhaul. Multiple mesh hops of 4 or more are well within the capabilities of the proposed system and will not affect available throughput from one connection to another.
A.7	The Network must provide a minimum client wireless throughput of 2.0 Mbs across the coverage area.	Yes	Utilizing the mesh planning software, an accurate mWAP positioning can be determined before the network is installed. Actual coverage area performance will be confirmed as deployment is in process to assure the minimum throughput levels are achieved.
A.8	The Network must have a maximum average round trip data latency of 50 mS to each mWAP across the coverage area.	Yes	Latency is typically 2 to 3 mS per mesh link depending on traffic load and local interference. Based on available fiber connectivity, we will have no trouble achieving a round trip data latency of less than 50 mS per mWAP.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
A.9	The Network must use a routing overhead that does not exceed 5% of available Network bandwidth.	Yes	
A.10	The Network must support the use of multiple configurable VLAN's, the configurations of which must include but not limited to:	Yes	With Aruba, a VLAN ID can be associated with a WLAN service set identifier (SSID), which extends VLAN QoS priorities to users and applications assigned to different SSIDs.

Amendment Qne  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name		
Spec #	Specification	How the specification is met or what alternative is proposed
A.10.a	a. Security	VLANs can be used to isolate traffic from different users or applications and to provide an additional layer of security. An SSID can be associated with a VLAN ID, and each VLAN can have its own security policy for access control, authentication and encryption.
A.10.b	b. Bandwidth	Aruba supports differentiated services (DiffServ), IEEE 802.11e and IEEE 802.1Q VLANs to provide traffic management and QoS.
A.10.c	c. QOS	With Aruba, a VLAN ID can be associated with a VLAN service set identifier (SSID), which extends VLAN QoS priorities to users and applications assigned to different SSIDs.
A.10.d	d. IP Addressing	In the proposed mesh design, VLANs play an integral role in both user segmentation for security purposes as well as scale the network for broadcast domain control.
A.10.e	e. Rate Limiting	Aruba supports differentiated services (DiffServ), IEEE 802.11e and IEEE 802.1Q VLANs to provide traffic management and QoS.
A.10.f	f. Authentication	An SSID can be associated with a VLAN ID, and each VLAN can have its own security policy for access control, authentication and encryption.
A.10.g	g. Encryption	An SSID can be associated with a VLAN ID, and each VLAN can have its own security policy for access control, authentication and encryption.
A.10.h	h. Class of Service	Aruba's mesh implementation takes full advantage of DiffServ's ability to create a hierarchy of categories and enables network operators to minimize latency as well as guarantee a minimal throughput for specified applications including public safety/ emergency traffic by provisioning a preferential allocation of bandwidth.
A.11	The Network must be adaptive and self-organizing in at least the following areas:	
A.11.a	a. Mesh Radio	Aruba mesh AWR (Adaptive Wireless Routing) optimizes traffic flows between wireless mesh routers to ensure maximum throughput and seamless mobility.
A.11.b	b. RF Channel	Aruba Mesh RFM protocol algorithm automatically sets up the wireless links in the mesh, with proper neighbor selection and channel assignment.
A.11.c	c. RF Path	Aruba AWR adapts to topological and link quality changes, automatically selecting the best RF path based on latency and throughput.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
A.11.d	d. Connection Rate	Yes	The RFM process continuously monitors each link's status and throughput. RFM keeps collecting each link's PHY and MAC level status such as signal strength, interference level, MAC efficiency and link level throughput. Based on the collected information, RFM is able to respond to environmental changes and optimize the link and network performance in real time.



Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
A.12	The Network must support a method of providing transitive data packet prioritization such as DiffServ/DSCP across the wireless Network elements.	Yes	Aruba Mesh provides traffic prioritization according to industry standards at both Layer 2 and Layer 3 by integrating support for Differentiated Services (DiffServ), IEEE 802.11e, and VLANs.
A.13	The Network must accommodate the addition of wired Network gateway connections and mWAP's without requiring reconfiguration of existing mWAP's or result in Network traffic interruption.	Yes	Aruba Mesh has the advantage of no disruption to service while expanding the network by adding more gateways. In Aruba Mesh, any node can be converted to a gateway by adding a wired connection to the ETH port in the mesh node.
A.14	The Network must provide adaptive tuning of the client connections that dynamically compensates for variations in 802.11a/b/g/n mobile devices in the Network.	Yes	Aruba RF management proactively optimizes each link's performance by adjusting the channel number and changing data rate.
A.15	The Network mesh routing protocol must:		
A.15.a	a. Automatically evaluate the current path and alternate paths throughout the Network with a frequency greater than once per second.	Yes	RFM (RF management software module) monitors the quality of the radio links. By default, every 100ms, RFM would send a beacon frame to its neighbor to measure the radio link quality. When RFM detects a radio link failure or significant radio link quality deterioration, it would report AWR and take action immediately.
A.15.b	b. Concurrently maximize throughput and minimize latency and jitter.	Yes	Aruba's AVT traffic-shaping system delivers high-definition video by making an intelligent tradeoff between latency and the impairments to video quality. The increased latency required to compensate for packet loss, reordering and jitter is imperceptible to users.
A.15.c	c. Dynamically monitor and optimize the health and performance of every mWAP link across the Network.	Yes	Aruba Mesh includes a carrier-grade network management system that enables centralized, real-time monitoring and management of the entire wireless network infrastructure.
A.15.d	d. Be load sensitive and have the ability of routing around congested Network pathways.	Yes	Aruba includes provisions for path and packet forwarding optimization, load balancing, interference avoidance, and multiple radio back-haul with no throughput degradation across multiple hops all contribute to sustain peak levels of performance.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
A.16	<i>deleted</i>		
A.17	The wired Network gateways must provide a minimum bi-directional data interface of 1Gbs to the Network mWAP's through vendor provided fiber media converters.	Yes	Both the proposed Aruba mWAP's and bi-directional fiber media converters have 1000baseT Ethernet ports and are fully capable of 1Gbs.
A.18	The vendor shall provide a diagram that illustrates the mWAP latency performance over 1, 2, 3, 4, 5, and 6 hops.		

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
<b>B</b>	<b><u>mWAP Specifications</u></b>		
B.1	Each mWAP must route traffic through the Mesh to and from the wired Network gateways.	Yes	Aruba AWR(Adaptive Wireless Routing) is a full-blown layer 3 routing protocol, purpose-built for wireless mesh networks. It is wireless link state aware and can quickly reroute traffic from links when their link quality go down.
B.2	Each mWAP must employ auto-discovery and auto-recovery to reduce installation time, traffic disruption, and deployment cost.	Yes	The always on RFM process on the mesh router is designed for such purpose. When a radio interface is turned on, the RFM process will initiate a quick mesh neighbor discovery process on that radio. Once the radio finds potential neighbor candidates, the RFM process will take inputs from all radios in the system and make the integrated decision on which neighbor to connect and on which channel.
B.3	Each mWAP must support two configuration images which include:		
B.3 a	a. Current operating configuration image	Yes	Two images are maintained (primary + backup), with the newest image representing the primary software from which the node will boot from.
B.3 b	b. Factory default configuration image	Yes	A backup firmware image is stored in the radio flash memory which can have default configuration settings if necessary.
B.4	Each mWAP must consist of at least two independent software configurable radios each conforming to the following:		
B.4 a	a. 2 X 2 MIMO (two antennas for Transmit and Receive)	Yes	Radios implement 2x2 MIMO with two spatial streams, providing up to 300 Mbps data rate per radio
B.4 b	b. Software configurable for operation on 2.4 GHz, 4.9 GHz public safety, and applicable 5 GHz bands.	Yes	The Aruba outdoor wireless mesh solution includes software configurable multi-radio, multi-frequency wireless mesh routers that operate over the 2.4-GHz, 5-GHz and 4.9-GHz public safety band.
B.4 c	c. Software configurable channels of operation in each of the bands specified in Section 4.b above.	Yes	The proposed Aruba radios are software configurable with 802.11 standard channels in each of the frequency bands mentioned.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
B.5	Each mWAP must have the capability to:		
B.5.a	a. Automatically monitor and select the frequency band channel to be used for mesh routing connectivity.	Yes	Aruba mWAP radios RF management capability proactively optimizes each link's performance by adjusting the channel number and changing data rate.
B.5.b	b. Dynamically route traffic over alternate available radio frequency band channels as necessary to maintain optimum Network performance.	Yes	In Aruba Mesh's layer 3 routing, since routing metrics for wireless links are incorporated, when a link A's quality decreases, routing will take notice and may favor a previously secondary link and choose a new route dynamically. When the link A's quality comes back, the route may be switched.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
B.5.c	c. Utilize Dynamic Frequency Selection (DFS) as required for operation on applicable 5 GHz channels.	Yes	However, all channels requiring FCC DFS compliance are disabled from the factory and will not b
B.5.d	d. Provide the maximum RF output power as defined by FCC Part 15.247 on the 2.4 GHz and applicable 5 GHz bands.	Yes	Each radio is capable of providing a maximum aggregate transmit power of 25 dBm and a data rate of up to 300 Mbps.
B.5.e	e. Provide an RF output power of at least +25dbm (325 mW) on the 4.9 GHz public safety band.	Yes	Maximum transmit power: 25 dBm (325 mW) limited by local regulatory requirements

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
<b>C</b>	<b><u>Frequency Bands and Channels</u></b>		
C.1	The mWAP's must provide client access using the following frequency bands and protocols:		
C.1.a	a. 2.4 GHz band using 802.11b/g/n protocol	Yes	802.11b/g/n is supported in 2.4GHz for client association
C.1.b	b. 4.9 GHz public safety band using 802.11a derived protocol	Yes	802.11a/n is supported in 4.9GHz for client association
C.1.c	c. Applicable 5 GHz band using 802.11a/n protocol	Yes	802.11a/n is supported in 5GHz for mesh backhaul connectivity
C.2	The mWAP's, at a minimum, must provide simultaneous full time (access point) client access on 2.4 GHz and the 4.9 GHz public safety band.	Yes	The Aruba AirMesh radios provide concurrent 802.11b/g/n access point for 2.4GHz client access and 802.11a/n access point for 4.9GHz client access.
C.3	The mWAP's may include the option to operate on or be upgradable for operation on 5.9 GHz DSRC consistent with Connected Vehicle applications. See: <a href="http://wireless.fcc.gov/services/index.htm?job=service_home&amp;id=dedicated_src">http://wireless.fcc.gov/services/index.htm?job=service_home&amp;id=dedicated_src</a>	No	5.9 GHz DSRC is not a feature that can be added to the Aruba AirMesh radios at this time.
C.4	The mWAP's must comply with all applicable FCC regulations for frequency bands used by the Network and must not operate unlicensed on any frequency band that requires FCC licensing.	Yes	The Aruba AirMesh radios fully comply with FCC regulations.
C.5	The Network of mWAP's must implement a channel plan for operation in the 4.9 GHz public safety band that is coordinated with Region 43 member agencies.	Yes	The 4.9 GHz channel plan supported by the proposed Aruba mWAP radios covers 4.9 - 5.1 GHz and meets coordination requirements with Region 43 agencies.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
<b>D</b>	<b><u>Physical Requirements</u></b>		
D.1	Individual field equipment power requirements must meet the following specifications:		
D.1.a	a. Operation on 120-240v AC, 60 Hz or 12-48v DC	Yes	All equipment is compatible with this power spec.
D.1.b	b. Power over Ethernet (POE) capability	Yes	The mWAP's and networks PTZ cameras are PoE compatible.
D.1.c	c. Maximum total power consumption (per mWAP installation) of 60 watts.	Yes	The proposed mWAP's and fiber media converters combined draw approximately 43W.
D.2	Some individual field locations may require operation on 277v AC. Refer to the coverage map for locations. Vendor must provide all devices required, such as a step-down transformer, to operate the mWAP and associated equipment at these locations.	Yes	Dayton 4MTL9 transformers will be supplied which is designed to take in 277vAC and provide 120vAC on the output for suitable power for all mWAP and cameras where necessary.
D.3	Each mWAP must not exceed 14" x 12" x 8" exclusive of antennas.	Yes	The Aruba mesh routers measure 13" x 11.5" x 5" exclusive of antennas.
D.4	Each mWAP must not exceed a weight of 20 lbs excluding mounting brackets and antennas.	Yes	The Aruba mesh routers weigh approximately 14.3lb each.
D.5	The vendor must provide mounting and installation hardware for installations on a variety of structures such as:		We are prepared to supply any mounting hardware required to install mWAP radios and cameras wherever they may be needed.
D.5.a	a. Metal and wooden utility poles	Yes	
D.5.b	b. Span wires	Yes	
D.5.c	c. Buildings	Yes	
D.5.d	d. Rooftops	Yes	

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
D.5.e	e. Walls	Yes	
D.5.f	f. Towers	Yes	
D.5.g	g. Mobile installations such as automobiles, trucks and boats.	Yes	
D.5.h	h. Bridge Structures	Yes	
D.6	Installation must not require proprietary tools.	Yes	All equipment can be installed with standard off the shelf tools.
D.7	Field equipment must be industrial-grade and designed for outdoor environments.	Yes	All field equipment to be installed will be industrial grade and designed for outdoor use.
D.8	The vendor may site the industry standards that proposed equipment meets and by what method the field equipment was certified.	Yes	Shock and vibration: ETSI 300-19-2-4 spec T41.E class 4M3
D.9	Field equipment must		
D.9.a	a. Be capable of operation between -30°C to +55°C.	Yes	The proposed Aruba MSR4000 and MSR2000 mesh routers can operate from -40° C to 55° C (-40° F to 131° F) for AC powered models. The Panasonic PTZ cameras can operate from -45°C to 50°C (-50°F to 120°F).
D.9.b	b. Have at least an IP66 rating.	Yes	The proposed Aruba MSR4000 and MSR2000 mesh routers have IP66 ratings. The Panasonic PTZ cameras have an IP67 rating with the specified enclosures.
D.9.c	c. Have a minimum sustained wind survivability of 100 MPH.	Yes	The proposed equipment is rated above 100 MPH for sustained wind survivability.



Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
D.9.d	d. Have a shock and vibration resistance that meets or exceeds ETSI 300-19-2-4 specification T41.E class 4M3.	Yes	The equipment meets ETSI 300-19-2-4 spec T41.E class 4M3
D.9.e	e. Comply with MIL-STD-810F 509.4 or ASTM B117 for salt fog rust resistance.	Yes	The proposed field equipment has been tested per ASTM B117 (96 hours in a 5% salt concentration atmosphere) and passed.
D.10	Installations must use the minimum number of mWAP MIMO antennas for both client access and mesh communication to achieve the required coverage and performance.	Yes	Appropriate antennas will be selected based on location and coverage required to provide continuous coverage with requested performance in the areas specified on the Network Coverage Map.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
<b>E</b>	<b><u>Network Security Requirements</u></b>		
E.1	The Network must support IEEE 802.11i and 802.1x including EAP methods, PEAP, and RADIUS.	Yes	For basic network access control, Aruba Mesh supports the IEEE 802.11i and 802.1x standard and adopts the RADIUS architecture, and supports certain extensions to the underlying Extensible Authentication Protocol, including X.509 digital certificates, PEAP-MSCHAPv2, PEAP-TGC, EAP-SIM (SIM card), EAP-TLS (Transport Layer Security) and EAP-TTLS (Tunneled TLS).
E.2	The Network must support end to end open access and WPA, WPA2, AES-CCM and TKIP encryption.	Yes	End-to-end WPA/WPA2, TKIP (128 bit), PSK, AES (128 bit) Aruba Mesh supports multiple BSSIDs and allows some or all SSIDs to be hidden to prevent their detection by the auto-scanning feature in most Wi-Fi clients, to gain access, eligible users must be provided a
E.3	The Network must support multiple BSSIDs and ESSIDs with ESSID suppression.	Yes	Aruba Mesh's network layer intelligence affords compatibility with other network security provisions. These include Network Address Translation (NAT), Network Admission/Access Control (NAC) systems and IP Security Virtual Private Networks (IPsec VPNs), as well as separate Access Control List (ACL), or authentication, authorization and accounting (AAA) systems, such as RADIUS
E.4	The Network must have the capability to remove active users from the system and blocking those users from further access when used in concert with a RADIUS server.	Yes	Aruba Mesh's implementation also includes an Access Control List (ACL) that provides additional capabilities for controlling and filtering traffic based on an authenticated user's source IP or MAC address, and the application's destination address.
E.5	The Network must have the ability to filter traffic based on IP address, protocol and TCP/UDP port.	Yes	The AirWave monitoring program includes capabilities for controlling and filtering traffic based on an authenticated user's source IP or MAC address, and the application's destination address.
E.6	The Network must have the ability to restrict management traffic to specific IP subnets refusing connections from management clients not in the specified IP subnet.	Yes	All components in the proposed solution support secure SSH and HTTPS for configuration, troubleshooting, and management traffic.
E.7	The Network must use secure protocols such as SSH and HTTPS for configuration, troubleshooting and management.	Yes	Aruba Mesh can prevent clients from communicating each other inside the Mesh even though those clients belong to the same VLAN.
E.8	The Network must have the capability to block client to client communications.	Yes	Aruba mesh architecture supports multiple SSIDs in the 802.11 access layer. Each SSID can have its own security mechanism to protect user data and application.
E.9	The Network must be capable of supporting multiple ESSIDs, each with a different type of security protocol such as Open, WPA, WPA2, and have compatibility with PSK or 802.1x.	Yes	

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
E.10	The Network must have the capability of restricting Network access based on MAC address.	Yes	The Aruba AirMesh system is capable of filtering at the MAC address level to ensure that only valid MAC addresses gain access to the network.
E.11	The Network, at a minimum, must be capable of employing 128-bit (or equivalent) AES encryption. Data traffic between mWAP's, between mWAP's and client devices must be capable of encryption using AES.	Yes	Aruba supports a full suite of standards-based encryption solutions including AES 128 bit.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
E.12	The Network must be capable of encrypting all control, protocol, and management algorithms using strong encryption such as AES.	Yes	All routing packets are encrypted and authenticated end-to-end via WPA/WPA2, TKIP (128 bit), PSK, or AES (128 bit) standards.
E.13	The Network must have the capability for the Administrator's creation of an "allow" list of Users.	Yes	The Aruba AirWave system includes an ACL (access control list) which can be managed by the administrators.
E.14	The Network must include an automated system for managing Network access parameters, such as MAC address or Network logins, across the Network when used in concert with a RADIUS Server.	Yes	Aruba Mesh's network layer intelligence affords compatibility with other network security provisions. These include Network Address Translation (NAT), Network Admission/Access Control (NAC) systems and IP Security Virtual Private Networks (IPsec VPNs), as well as separate Access Control List (ACL), or authentication, authorization and accounting (AAA) systems, such as RADIUS.
E.15	The Network must have the capability to support AES with pre-shared keys.	Yes	AES encryption with preshared keys is supported for both mesh and client access.
E.16	The Network must use time/date stamped Syslog messaging to log Network activity and statistics such as but not limited to client affiliations, connection rates, frequency band and channel status (in-use, etc.), link status and Network authentications.	Yes	Aruba AirWave supports time/date stamped syslog and traps to keep track of client associations/disassociations.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name				
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed	
<b>F</b>	<b>Network Management Requirements</b>			
F.1	The vendor must provide two management applications and two centralized network management servers (NMS); one each for monitoring and administration of the Network and one each for monitoring and administration of the SDOT-ITSN mWAP's.	Yes	Aruba AirWave and MeshConfig management programs and appropriately spec'd servers will provide the required services.	
F.2	The management applications must have API functionality such as XML or SNMP for integration with third party management platforms.	Yes	AirWave runs on an architecture that has been designed for scalability. It runs on an LAMP open source stack and uses XML, SNMP, and other open standards to communicate with devices and provide information out to other applications.	
F.3	The management applications must provide the capability of integration with existing SNMP management platforms and additionally must;	Yes	The AirMesh devices have a SNMP agent running on them that supports SNMP v1, v2, and v3.	
F.3.a	a. Support SNMP versions v1 and v2c.	Yes	SNMP v1, v2c, and v3 compatible	
F.3.b	b. Have configurable SNMP community strings.	Yes	SNMP v2 and v3 credentials can be configured in the proposed management system.	
F.3.c	c. Be capable of sending SNMP trap information to a configurable server.	Yes	Aruba mesh provides the ability to define multiple, downstream SNMP trap receivers.	
F.4	The management applications must be capable of;			
F.4.a	a. Batch configuration and storage of configuration profiles.	Yes	The MeshConfig system can upgrade groups of mWAP's or individual units at one time. Updates can be scheduled and automatically executed anytime.	
F.4.b	b. Downloading software to installed mWAP's both individually and in bulk.	Yes	Firmware upgrades and software changes can be pushed individually or for an entire group from the management platform	
F.4.c	c. Pre-loading mWAP's with software and configuration files prior to installation.	Yes	The management platform can be used to upgrade the software and configuration of each mWAP and will preload the radios with the update before executing	
F.5	The management applications must be able to determine the status, success or failure, of any software update or configuration change in real time.	Yes	The job status page updates the status of the software configuration change. There is also a log file that gives more information in case of failure.	

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
F.6	The management applications must offer a real time graphical display of mWAP status and connectivity.	Yes	The Aruba MeshConfig application provides easy-to-use, real-time monitoring views of every mesh device under management including status, routing, and connectivity.
F.7	The management applications must report per minute statistics for all users including link quality and status, data throughput, latency and jitter, client SNR, transmit/receive and other relevant performance statistics.	Yes	This information is displayed in real time in under 1 minute intervals.
F.8	The management applications must be able to manage up to 5000 mWAP's on a single NMS, maintain a system event log (Syslog) and provide alarm management and reporting.	Yes	Supports up to 100,000+ managed devices.
F.9	The management application and NMS traffic that takes place wirelessly must occur over secure links.	Yes	Aruba's Mesh wireless network infrastructure provides secure IP services from end-to-end, beginning with the connection between clients and access points, and extending across the backhaul from
F.10	The management applications must be capable of running on off-the-shelf non-proprietary computer hardware.	Yes	Runs on standard PC hardware/standard Linux operating system.
F.11	The management applications must allow for up to 15 simultaneous users.	Yes	The management system can be utilized by up to 15 users at any one time.
F.12	The management applications must support multiple levels of access accounts. Each account must be configurable to provide a level of access right such as but not limited to;	Yes	AirWave was designed to facilitate role-based permissions on a user-by-user basis (each user is assigned a unique name and password) and logs all actions by user.
F.12.a	a. Software administration/management	Yes	"System Administrator" access that permits the user to change system settings
F.12.b	b. mWAP administration/management	Yes	Read-write privileges that permit the user to alter device configurations (network engineers)
F.12.c	c. View-only access	Yes	Read-only access to monitoring data and reports (typically for service desk staff)
F.12.d	d. Support an administrator access login level that limits the login's mWAP configuration edit rights only to a definable group of mWAP's.	Yes	Users can have read-write privileges limited to a "folder" of AP's.
F.13	The management applications must provide a login that is capable of being linked to a RADIUS server.	Yes	TACACS and RADIUS are supported in this role.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
F.14	The management applications must provide an overview of mWAP mesh routing, client, fiber connectivity and data performance in selectable time increments.	Yes	The NMS also collects information about every Wi-Fi client accessing the network, including its MAC address, IP address, signal intensity, data rate and traffic status which can be graphed in selectable increments.
F.15	The management applications must offer the ability of generating performance analysis reports.	Yes	The AWMS is fully capable of generating historical reports on an hourly, daily, weekly, monthly, and annual basis.
F.16	The management applications must offer root cause analysis assistance.	Yes	Aruba AirWave offers root cause analysis.
F.17	The management applications must be able to store performance statistics and event logs in a user exportable format such as a relational database, and support exporting of data in formats such as csv, or text files.	Yes	Both management applications support exportable reports, logs, and statistics.
F.18	The management applications must be able to discover and bring on-line any new devices that are installed in the field upon receipt of their IP address.	Yes	Aruba employs multiple automated device discovery techniques including automatic authorization of newly discovered elements.
F.19	Failure of the management application or NMS must not affect the performance of the Network or the functionality of the SDOT-ITSN mWAP's.	Yes	The Aruba mesh routers are "thick" radios which are fully capable of operating a self healing, self routing, and self discovering network in the event of an NMS failure.
F.20	The management applications must provide optimization tools to maximize performance.	Yes	Provisions for path and packet forwarding optimization, load balancing, interference avoidance, and multi-radio back-haul with no throughput degradation across multiple hops all contribute to sustain peak levels of performance.
F.21	The management applications must provide mapping capabilities to reflect overall configuration and flexible mapping of functional groupings of mWAP's.	Yes	The map's background can even be customized with the location of all nodes placed where actually deployed, which is especially valuable in outdoor deployments.
F.22	The management applications must be capable of offering full functionality from common web browser applications.	Yes	Both management applications support full functionality from a common browser based user interface.
F.23	The management applications must support configurable email and SMS notification of events, alarms and alarm thresholds. The applications must allow authorized administrators to pre-configure email and SMS notifications to multiple recipients.	Yes	The proposed Aruba management applications can configure alert distribution to match user roles to ensure that only individuals with management responsibility for a specific device can receive and view alerts related to that device.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
<b>G</b>	<b><u>Network Coverage Areas</u></b>		
	Refer to the enclosed "Network Coverage" map.		
G.1	The Network mWAP's must be installed in a manner which provides the performance specified in this document throughout the coverage areas marked on the map as "Priority 1 Coverage Area and Priority 2 Coverage Area".	Yes	Site surveys will be performed before selecting installation points and radio quantities to ensure the performance meets requirements as specified in this document.
G.2	The mWAP installations must provide continuous coverage to mobile clients including automobiles, trucks and busses operating in the right-of-way.	Yes	mWAP planning and installation locations will be selected based on the ability to provide continuous coverage in the areas specified per the RFP requirements.
G.3	The mWAP's designated for the "SDOT Required Coverage" area will be installed at the specific locations designated on the map. The mWAP's will be configured as access points and will not be meshed at this time. Each mWAP will be connected to City provided fiber that provides a dedicated path back to the SDOT-ITSN as shown on the "ITS Interoperability" map. The access points within the "SDOT Required Coverage" area will become a direct functional part of the SDOT-ITSN.	Yes	The Aruba MSR2000 mWAP radios are being proposed for this particular installation based on the specific requirements.



Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
H	<b>Wired Network Gateways and Fiber Connectivity</b>		
H.1	The City of Seattle will provide fiber as the connectivity media for the wired Network gateways where necessary to limit mWAP backhaul hops to three. The vendor will determine and work with the City to locate the wired Network Gateway connections as part of the Network design.		remove h1
H.2	Where required (see "Network Coverage Map") vendor must provide the necessary hardware and mounting enclosures to connect mWAP's and cameras with the fiber media at the locations designated as "wired Network gateways".	Yes	We have developed an integrated mount system for a project we are installing for the City of Port Angeles, WA that compactly and esthetically packages the mWAP and fiber media converters. This mounting system has the ability to include additional enclosures for the City or vendor provided media converters if necessary.
H.3	The City will provide any fiber connectivity the vendor determines necessary to satisfy the Agency Interoperability requirements as described in Section J.	Yes	Fiber connectivity locations and requirements will be determined after the site survey phase has been completed. Our project manager and network engineer will coordinate with City personnel to map out and document where necessary fiber deployments will need to be made.
H.4	The vendor will be responsible to provide any SM fiber to 1 Gbs ethernet media converters necessary at each designated wired Network gateway location (refer to the Network Coverage Map) to interface the fiber with the mWAP's.	Yes	The IMC Networks IE-MultiWay media converters will provide the SM fiber to 1Gbs network connectivity.
H.5	The vendor must also provide any 1 Gbs data switches as required to combine the camera, mWAP, and media converter ethernet interfaces together at applicable locations.	Yes	We have selected a multi port media converter which will not require an additional network switch to cut down on additional hardware, energy requirements, and additional points of failure.
H.6	The City will provide fiber connectivity at each mWAP location identified in the "Rainier Avenue Corridor" area on the "Network Coverage Map". The vendor will be responsible to provide any SM fiber to 1 Gbs ethernet media converters necessary to interface the fiber with each mWAP.	Yes	The IMC Networks IE-MultiWay media converters will provide the SM fiber to 1Gbs network connectivity.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name		
Spec #	Specification	Yes or No
I	<u>Port Security Surveillance Video Application</u> Refer to the "Required Coverage" area of the "Network Coverage Map" for the following;	
I.1	The vendor must provide thirty (30) Canon model VB-M40, or equivalent, PTZ IP cameras installed:	Yes
I.1.a	a. In heated IP66 or better rated outdoor enclosures	Yes
I.1.b	b. With any required power supplies that conform with Sections E.1 and E.2	Yes
I.1.c	c. Installation at the locations indicated on the Network Coverage map	Yes
I.2	The Network must provide police patrol and command vehicles viewing access to the IP video streams from any IP cameras selected by SPD.	Yes
	Refer to the "Police Video" diagram for the following;	
I.3	The vendor's proposal must provide outside agencies, shown on the diagram, authorized viewing and PTZ control of any one or more of the IP cameras.	Yes
I.4	The vendor must provide Dedicated Micros model DVIP-RT, or equivalent, with a total capacity of 64 camera inputs. The Network video recorders must:	Yes
I.4.a	a. Provide at least 60-day archival recording capacity	Yes

How the specification is met or what alternative is proposed

Panasonic PTZ model WV-SC385 meets or exceeds technical specifications compared to the example Canon model VB-M40.

Panasonic model PPF09CN nitrogen pressurized and heated housing is IP67 rated.

Supplied power supplies conform with sections E.1 and E.2 specifications.

Site surveys will be performed before selecting specific installation points on city and county light poles as indicated on the Network Coverage Map.

IP connectivity via a web browser is all that is required to connect to the video management system. The Coban Technologies VMDT Gen II mobile terminals are equipped with 802.11a/b/g/n wireless capabilities which will connect to the proposed mesh system allowing access to the VMS.

The ipConfigure ESM video management software allows multiple user accounts with differing levels of access and permissions. IP connectivity via a web browser is all that is required to connect to the video management system.

An HP Proliant DL360 server has been proposed which will have an installation of ipConfigure ESM for managing and distribution of network video. The combination of this server and software will far surpass the DVIP-RT capabilities and will enable authorized users to access network video from a variety of sources including iPad's, laptops, and other mobile devices.

34TB of storage space will be provided via a HP P4500 storage array which will allow 60 days of recording for the (30) proposed cameras at the required frame rate and resolution.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
I.4.b	b. Provide wireless clients with Multicast viewing capability.	Yes	Through an HTML interface both users and administrators can access the system from any network computer through a secure SSL encrypted log-in.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
1.5	Use the "Police Video" diagram as a design guide. The vendor must provide everything necessary to provide a fully functional Police/Port Security surveillance video system as depicted and specified on this diagram.	Yes	All necessary hardware and software will be provided to ensure a fully functional Police/Port Security surveillance video system as depicted and specified on the Police Video diagram.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name		
Spec #	Specification	Yes or No
J	<p><b><u>Intelligent Transportation System (ITS) Interoperability</u></b></p> <p>The Network is intended to be interoperable with the KC-ITSN which is an enterprise network of the King County WAN. The KC-ITSN uses the 4.9GHz public safety band for short range wireless communication (as client access points). Interoperability will allow King County Metro buses and 'technology pylons' to connect to the King County WAN via the Network. Please note that the KC-ITSN clients authenticate using LEAP.</p>	Yes
	<p>The Network is also intended to be interoperable with the SDOT-ITSN. The SDOT-ITSN includes the mWAP's installed in the specific locations within the "SDOT Required Coverage" area of the "Network Coverage Map".</p>	Yes
	Interoperability will allow SDOT-ITSN native wireless clients affiliated within the Network coverage area to have a network path back to the SDOT-ITSN.	Yes
	The interoperability will also allow KC-ITSN native wireless clients a path back to the KC-ITSN when these clients are affiliated within the SDOT Required Coverage area.	Yes
	The vendor must use the "ITS Interoperability" diagram as a guide for the following:	
J.1	The Network must support interoperability with the KC-ITSN and the SDOT-ITSN.	Yes
J.2	The vendor is not responsible for existing equipment used by these two networks including wireless mobile clients, authentication servers and network management devices such as switches and routers.	Yes

How the specification is met or what alternative is proposed

The proposed Aruba MSR2000 mWAP's utilize both 2.4GHz and 4.9GHz radios simultaneously and can accommodate authentication via LEAP.

Aruba Mesh's implementation enables an SSID to be associated with a VLAN ID, and each VLAN can have its own security policy pertaining to access control, authentication and encryption. These ID's can be seamlessly passed through the Network allowing wireless clients to roam from one area to the another with full functionality and access.

The use of a common RADIUS authentication server or the sharing of "allowed" users between networks based on MAC address will allow SDOT-ITSN clients access to the Network regardless of location within the proposed system.

The use of a common RADIUS authentication server or the sharing of "allowed" users between networks based on MAC address will allow KC-ITSN clients access to the Network regardless of location within the proposed system.

The Network supports interoperability between both the KC-ITSN and SDOT-ITSN through a centrally managed layer three Cisco router and switch configuration that joins both the fiber and copper Ethernet

The City will be responsible for the network equipment currently in operation.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
J.3	The Network must provide continuous coverage for the KC-ITSN's wireless mobile clients (specifically transit vehicles and transit police vehicles) and the SDOT-ITSN's wireless technologies/clients in the right-of way within the Network's specified coverage areas.	Yes	Extensive site survey work will be performed to ensure continuous coverage in the specified coverage areas. The Aruba mesh radios will be fully interoperable with both the KC-ITSN and SDOT-ITSN wireless clients. Access permissions and VLAN's can be extended to the Network as well giving clients connectivity to their own native networks.
J.4	The Network must support association with wireless mobile clients that use Cisco 3200 series WMIC and compatible devices equipped with Ubiquiti Networks SR4C cards operating on the 4.9 GHz public safety band.	Yes	The proposed Aruba mWAP's are fully compatible with both Cisco 3200 series WMIC and Ubiquiti Networks SR4C 802.11a, 4.9GHz clients.
J.5	The Network's native 4.9 GHz public safety band wireless mobile clients must support association with Cisco 1524 wireless access points used in the KC-ITSN operating on the 4.9 GHz public safety band.	Yes	Both devices support 802.11a connectivity in 4.9GHz public safety band and are compatible.
J.6	The Network may support association with wireless mobile clients using 5.9 GHz DSRC devices for Connected Vehicles applications.	No	Currently the Aruba solution does not support services for 5.9 GHz DSRC devices.
J.7	The Network must provide the same specifications, as defined in this document, for associated KC-ITSN wireless mobile clients and SDOT-ITSN wireless technologies/clients as it does for its own associated native wireless mobile clients.	Yes	The proposed solution will enable the same specifications to KC-ITSN and SDOT-ITSN wireless devices as the native wireless clients as long as the user is authorized. Interoperability will be achieved as the various networks are joined together at the core and distribution switches as described in our system design approach.
J.8	The vendor must permit the use of the Network's architecture for inclusion in the KC-ITSN and SDOT-ITSN.	Yes	At the layer 3 distribution switch will bring the KC-ITSN and SDOT-ITSN segments together with the Network for full inclusion as required.

Amendment One  
Technical Specifications and Response Form  
March 6, 2012

Vendor Name			
Spec #	Specification	Yes or No	How the specification is met or what alternative is proposed
J.9	The vendor must document how the interoperability between the Network, the KC-ITSN and the SDOT-ITSN must be achieved.	Yes	Interoperability is documented in our system design approach which is included in our response.

## **6. Management Specifications and Response Form**

### **6.1 Project Constraints**

#### **6.1.1 Time Constraint**

The Project must be completed by 12/15/2012 due to expiration of grant funding.

#### **UNDERSTOOD AND AGREED**

#### **6.1.2 Constraint to use City and 3rd Part' Properties**

Proposed use of any Seattle Department of Transportation (SDOT) Poles and AC Power source for the installation of wireless access point (mWAP) and antennas must be approved by SDOT. SDOT crews and SDOT bucket truck will be used for the physical field installation and power connections to existing power sources. The Vendor's staff will perform all other work necessary for the full functioning of the system.

#### **UNDERSTOOD AND AGREED**

Proposed use of any 3rd party's property must have the written permission of the owner.

#### **UNDERSTOOD AND AGREED**

### **6.2 Project Plan**

#### **6.2.1 System Design Approach**

Given the time constraint, please provide detailed descriptions on the proposed design approach that will enable the provision of a fully functional system as specified and still meet the project deadline of 12/15/2012. Please also be specific on what the City will need to do in the proposed design approach.

During contract negotiations and/or during the term of the Agreement, if the Vendor finds that the specifications can be met and the work completed in a more advantageous way to the City, the Vendor shall notify the Project Director in writing of such finding.

#### **System Overview**

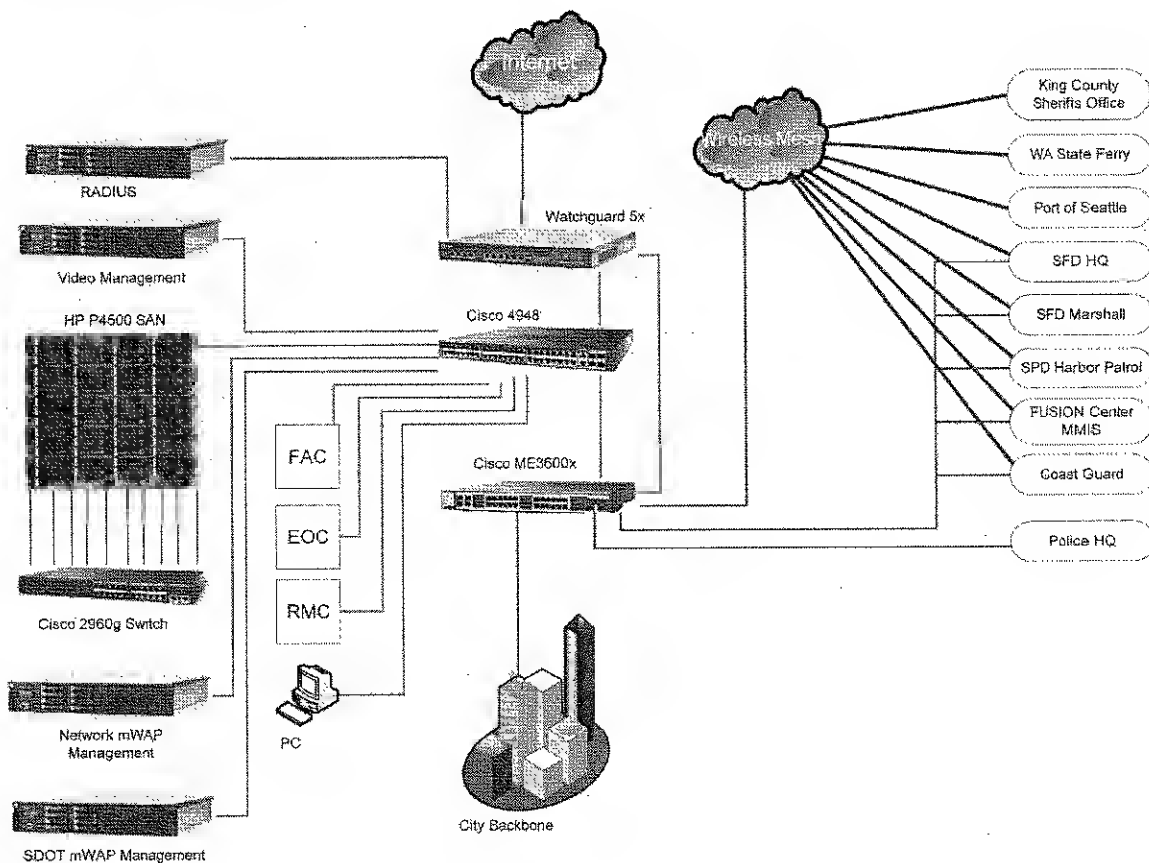
As new technologies are developed and new threats arise, public safety and security operators must adapt and contain them with appropriate measures. Speed and reliability are absolutely critical to an effective command and control response and can mean the difference between success and failure. These concerns were at the forefront of our system design process and ultimately led to the selection of each portion of our solution. Because this project is on an accelerated time scale due to grant funding, our solution had to be quickly configured and deployed. Setup issues due to product failure or poor manufacturer support would add costly delays that we couldn't risk. From the core network equipment



out to the mWAP hardware, each piece of the proposed system is designed to economically provide the highest performance and reliability possible.

Beginning with the diagrams provided within the RFP our engineers proposed core components that are designed to handle a high volume of multi-cast video traffic which can bring an inadequately equipped system to its knees. In addition, the VLAN and QoS abilities built into the core Cisco network switches in our bid, will make it possible for seamless interoperability within the various segments as requested. At the core of operations is a Cisco Catalyst 4948 layer three switch which offers exceptional performance and reliability. High feature capacity, exceptional wire-speed routing and switching performance with concurrent provisioning of services such as quality of service (QoS) and security ensure scalability and ample room for future growth. This will be the core device which will take the surveillance video and network management servers and make them available to the rest of the network.

A Cisco ME 3600x series access switch will connect the various fiber feeds from the wireless mesh, City backbone, and other city offices and departments to the Cisco 4948 giving access to each of the applications and ultimately providing connectivity between network divisions. Twenty four Gigabit Ethernet SFP ports are available to handle this task which is more than sufficient for interconnectivity, allowing for future expansion.



## **PTZ Cameras**

The PTZ cameras are the primary reason for this RFP which means the quality and capability of the proposed solution is of the utmost importance. We have selected the Panasonic WV-SC385 PTZ cameras for installation at the thirty locations shown in the provided network coverage map. This camera not only meets or exceeds the Canon model referenced in the technical spec, the superior track record and experience of Panasonic as a manufacturer has proven this platform more extensively. Exclusive features such as Face Super Dynamic (FSD) which ensures clear images of faces, and a face-detection function that automatically detects the position of human faces, makes the WV-SC385 the a perfect fit for this project. H.264 video compression and PoE support make integration to an IP network simple and utilize available bandwidth at the highest efficiencies possible.

A site survey will be performed at every camera location prior to installation to determine proper mounting position, mounting hardware, and proximity to fiber or mWAP mesh unit for network connectivity. All cameras and mWAP locations will be given a location identifier that will follow the equipment through to installation and completion of the project. This will aid in project progress as well as hardware inventory and asset management throughout the process. Each camera will be pre-configured with network address information provided by the City at our facility prior to installation by the city field crew.

## **Video Storage and Management**

HP makes the most reliable, best performing, and most energy efficient servers on the market today. All of these attributes combine to give you the most for your investment. Based on the scope and number of clients potentially utilizing the video surveillance application we've selected the HP DL360 G7 server. This server will provide a stable and capable platform to make the surveillance network a reality while offering the most value and highest performance per dollar.

An HP storage array has been selected with approximately 40TB disk space, capable of storing 60 days of archived video at the necessary resolution and frames per second as specified in the Tech Spec document. Due to the size of disk space required a separate storage array was needed. HP P4500 SAN's set the industry standard for application availability and disaster recovery features which include automatic failover/failback in any situation. The combination of HP server and HP storage array hardware ensures the same exemplary level of reliability and support will be provided for the entire solution.

The HP DL360 G7 server proposed will be loaded with ipConfigure ESM software for the task of managing and distributing IP video surveillance. This ipConfigure video management software is currently being used by the U.S. Department of State, and the U.S. Postal Service. This platform will manage unlimited cameras, over unlimited locations, while allowing user roles, privileges and access to

specific interface features easily customizable with a click of a mouse. The intuitive browser-based interface means that there is no client software to install and maintain. A multitude of client hardware including iPads, iPhones, laptops, and Droid based devices can view, manipulate, and retrieve surveillance video by simply connecting to an HTTP address.

ESM software will be pre-installed and configured at our location. Bench testing will be performed with the actual PTZ cameras to be installed to guarantee seamless operation after being permanently located in the EOC. In order to make the installation process as smooth and fast as possible the server and core network hardware will be mounted in the EOC prior to the installation of the cameras. Each camera will then automatically come online as soon as network connectivity has been established with no further interaction necessary from the field technicians. Final software configuration will be performed with input from EOC personnel to customize map views and setup access user groups and permission settings.

#### **Marine Cameras**

The FLIR thermal cameras are the undisputed best performing manufacturer in this arena. The Voyager series of thermal cameras listed in the technical specifications on the RFP do not have an equal, making this model the clear choice to meet the needs of the marine security personnel. Nauticomp signature series 2 sunlight viewable displays have been selected due to their dedicated marine use design as well as their excellent image quality offered at an economical price.

Yacht Masters Northwest will be subcontracted to do the marine craft installations. With 30 years of marine outfitting experience and good history with Seattle Port and Harbor Patrol agencies make them a perfect fit for this portion of the RFP. When the six craft are selected that will receive the thermal cameras, Yacht Masters technicians will perform an engineering walkthrough to map out cabling paths and hardware location points. All work will be scheduled with Harbor Patrol as the craft will be unavailable for service during installation. Field tests will be performed with Harbor Patrol officers at the completion of work to ensure acceptable performance levels and train officers in the proper operation of the FLIR thermal cameras.

#### **Wireless Mesh**

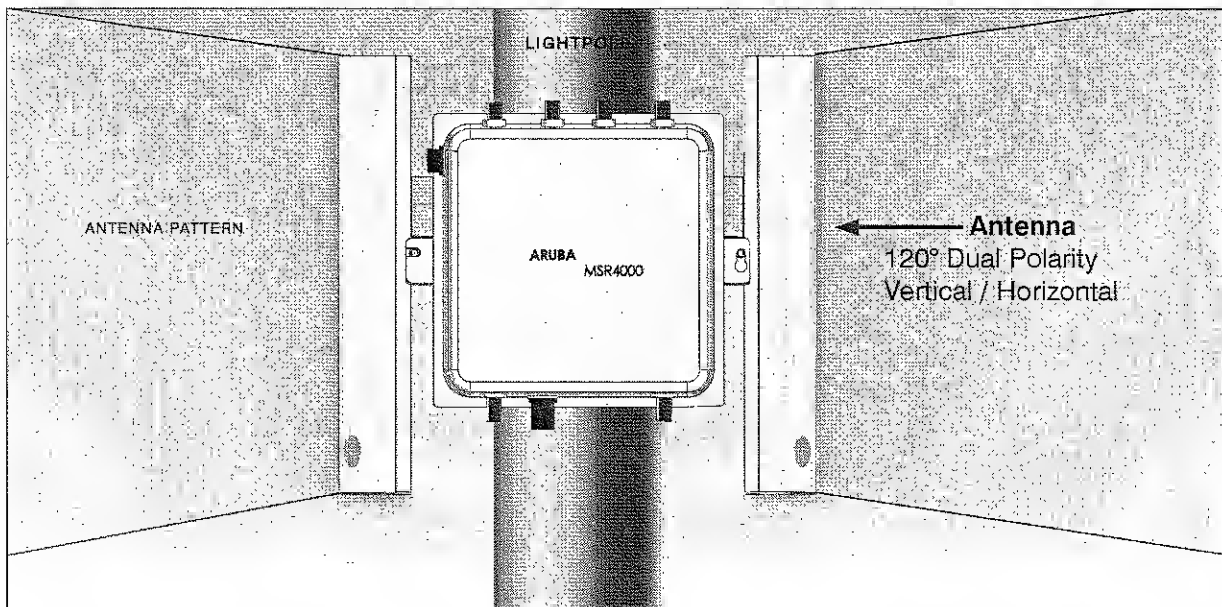
Surveillance video traffic places demands on a wired or wireless network that require specific technology and processing to efficiently handle the data. The Aruba layer three mesh system leverages the multicasting capability built into the Adaptive Wireless Routing protocol to provide concurrent and efficient multi-path transmission of the high-quality video to multiple destinations. This is useful in video surveillance applications that require monitoring and/or recording multiple locations. The Aruba MSR4000 series 4 radios provide the best possible client coverage in 2.4 GHz and 4.9GHz simultaneously while offering 5 GHz dual radio mesh backhauling. Dual radio backhauling enables the mesh network to stretch multiple hops with a minimum of throughput costs.

Preliminary site surveys will be conducted for each mWAP location to ensure that acceptable coverage and client performance can be provided. A master technician will utilize a professional grade Anritsu spectrum analyzer and mapping software provided by Aruba to determine the optimum positioning of each unit for maximum effectiveness. Installation locations will be given a unique location identifier that will follow all site hardware through to installation. This will simplify asset tracking and project progress which will minimize delays and promote visibility as to the percentage of completion toward our goal. A shared spreadsheet will be maintained by the project manager and will include data on each location such as; serial numbers, model numbers, network address, installation date for each item, and City property control numbers. Additional information can be added during the planning stage as necessary.

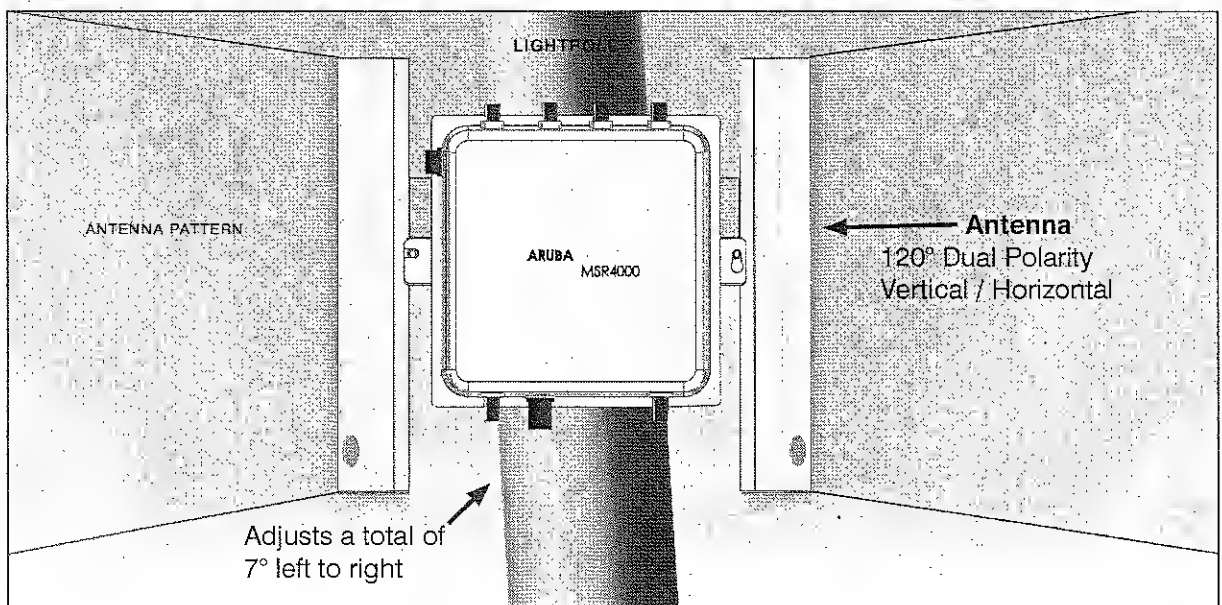
The mesh radios will be pre-mounted to our CYCLONE OUTDOOR MESH MOUNTING ARM (See the following specification sheets and pictures), complete with the external backhaul antennas for fast installation. We designed and built this arm specifically for the Aruba MSR-4000 and are currently mounting 235 of these in Port Angeles for a citywide outdoor mesh deployment. The 5" x 10" back plate would be mounted first by using 3/4" Stainless Steel banding for metal or concrete poles and 5/8" galvanized bolts on wood poles. Once the back plate is mounted then we would hand a completely configured and assembled unit to the City employee in the bucket truck. He would then slide the arm into the back plate and insert the 2 - 3/8" Stainless Steel bolts and add the washers and nuts. Then he would level both axis points, aim the backhaul antennas, and power the radio up. At our location each mWAP will be completely assembled, weatherized, configured and tested with IP's provided by the City of Seattle to ensure a seamless integration upon connection. Bench testing will also prevent any malfunctioning hardware from being put in by technicians, which will add unnecessary troubleshooting and replacement time. Radios will be labeled with position and network address information before they leave our staging area to ensure the smoothest possible process. Under the guidance of our expert field engineer, installers will quickly be able to get up to speed with all associated hardware reducing time on site at each mWAP location. The process described in this paragraph is what will allow the project to be aesthetically pleasing and finish on time which is crucial because of the funding source.



## CYCLONE OUTDOOR MESH MOUNTING ARM - Front view

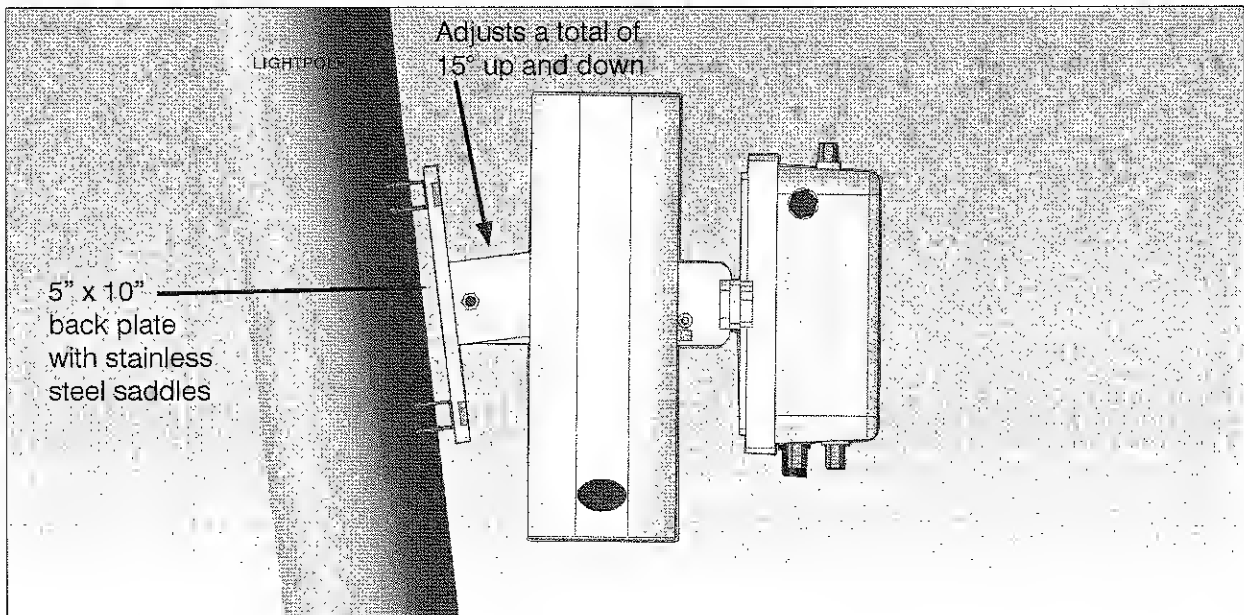


## CYCLONE OUTDOOR MESH MOUNTING ARM - Front view

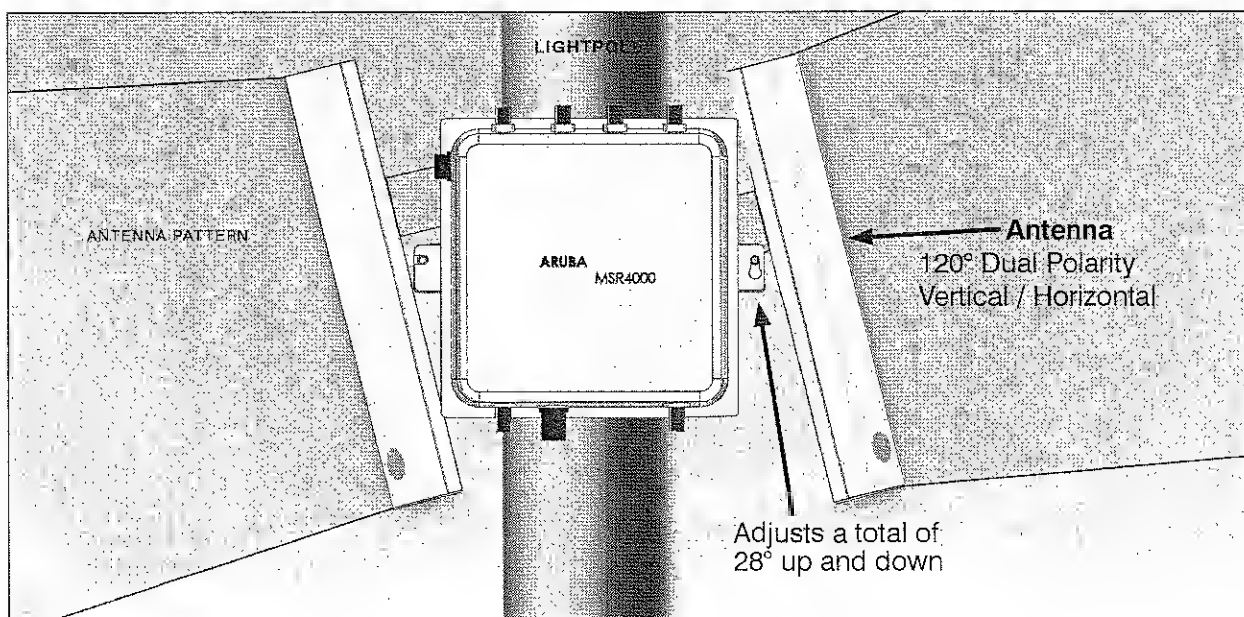




## CYCLONE OUTDOOR MESH MOUNTING ARM - Side view

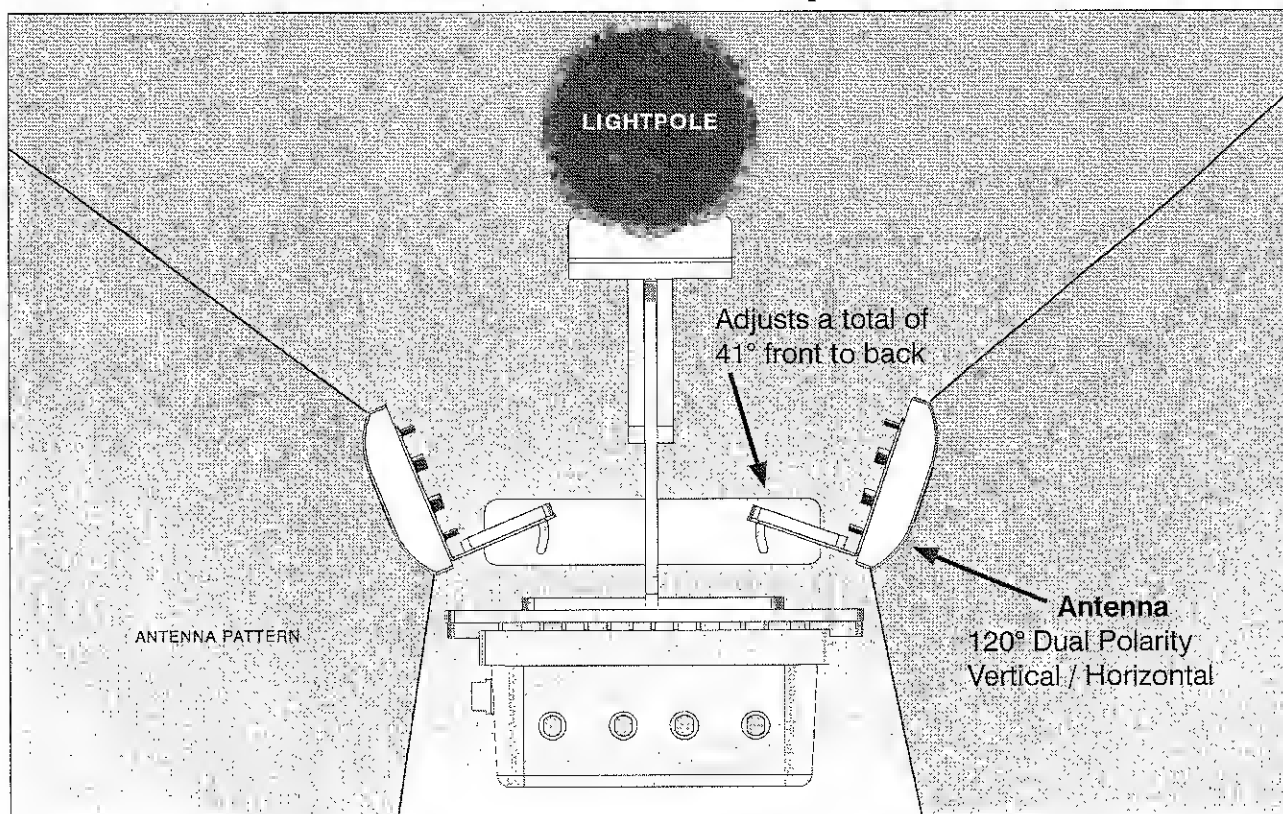


## CYCLONE OUTDOOR MESH MOUNTING ARM - Front view

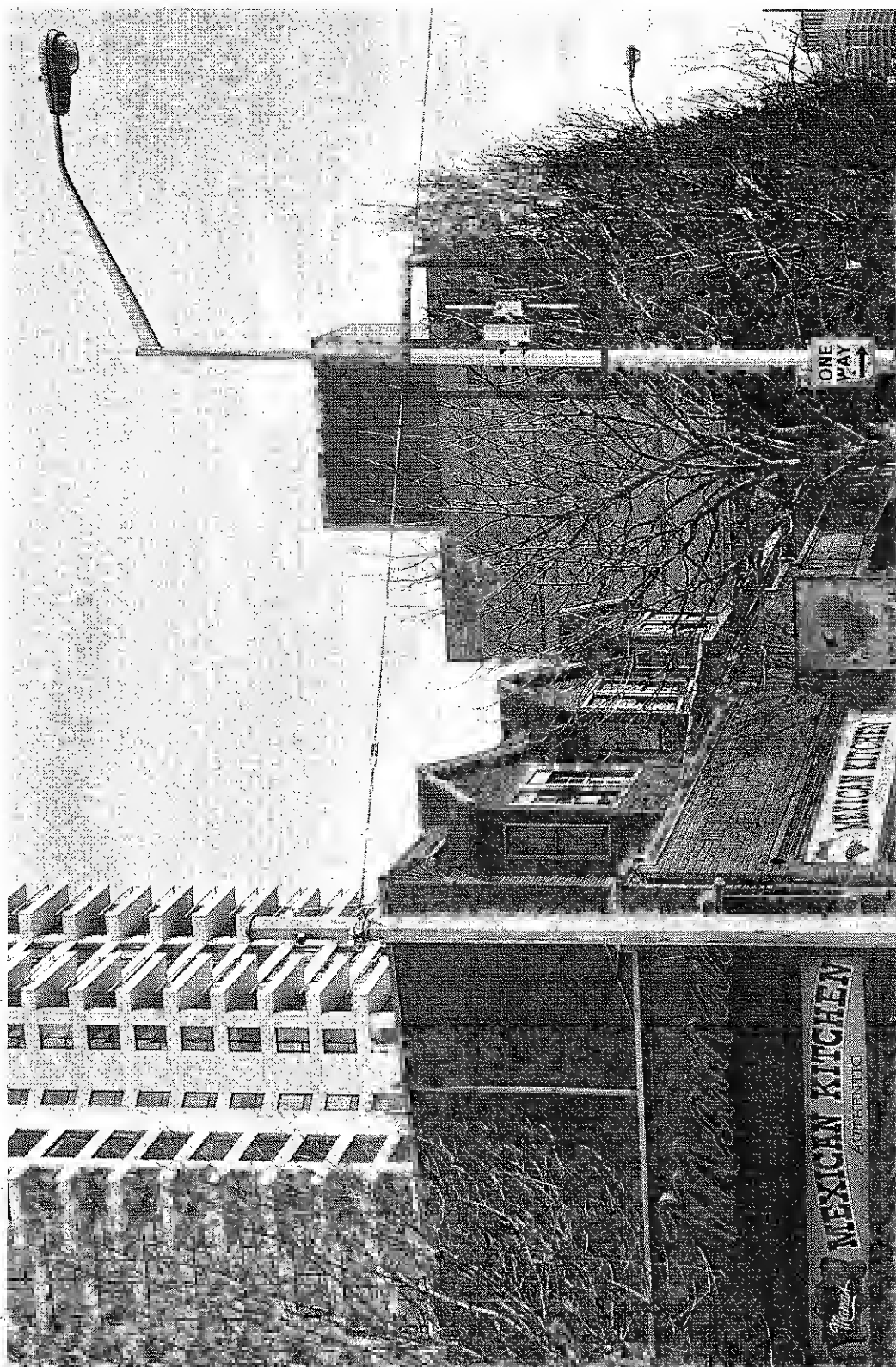




## CYCLONE OUTDOOR MESH MOUNTING ARM - Top view









## Wireless Mesh Multi-Hop Test information

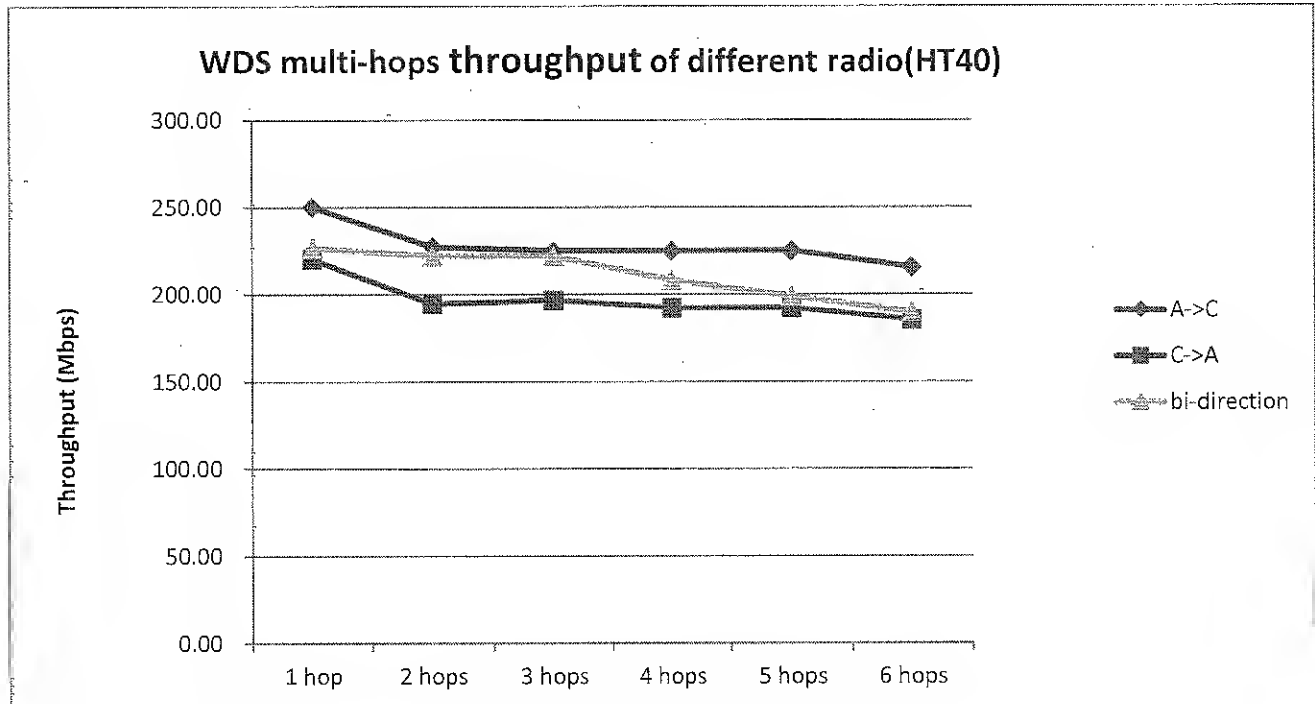
Data Executed: March 2012

Tester: Hao Zhang

## Description

Test WDS multi-hops throughput in shielded room.

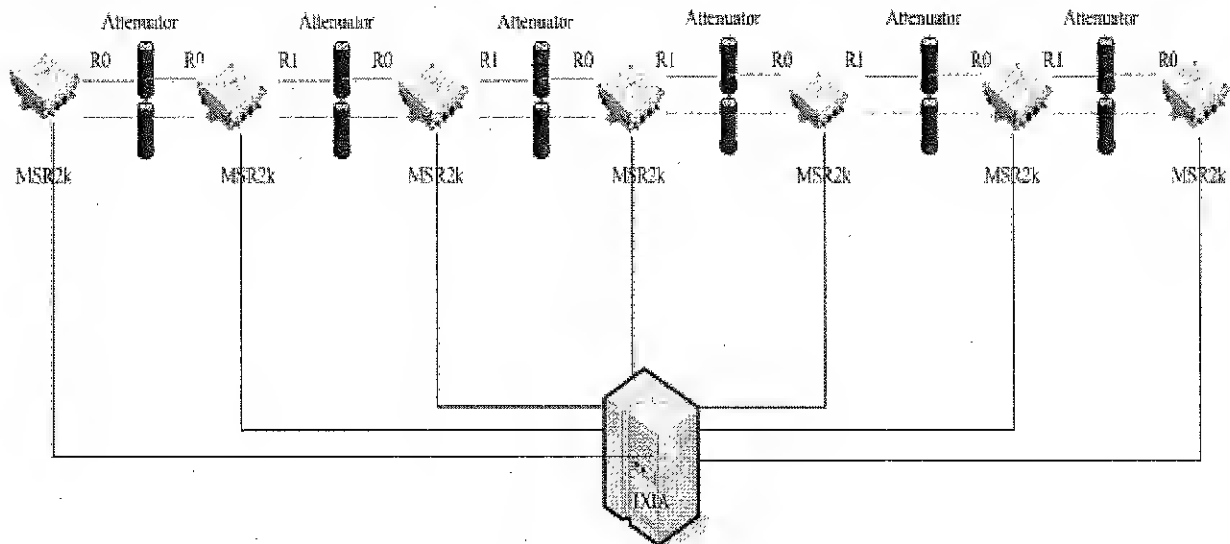
## Test result



## Test image

MeshOS\_4.5.0.0\_2012-03-22\_2320\_build.img

## Topology



Device	number	Description
MSR2k	7	installed with H92 card
IXIA	1	4 GE-ports for traffic
Attenuators	24	12 attenuated 40 db and 12 attenuated 20db
cables	12	See from the topology. They connected MSR2K and Attenuators.
Connectors	24	N-to-SMA connectors

## Test method

- Setup WDS links between devices, disable vplm, enable short-gi,  
step 1 work mode is HT40, authentication way is open, all RSSI are between 40~50.  
step 2 Country is D1, Channel is 100,116, 132 ,52, 100 and 116;  
step 3 Run IXIA Scriptmate 2544 tput. Packet size is 1518bytes;

### Test data

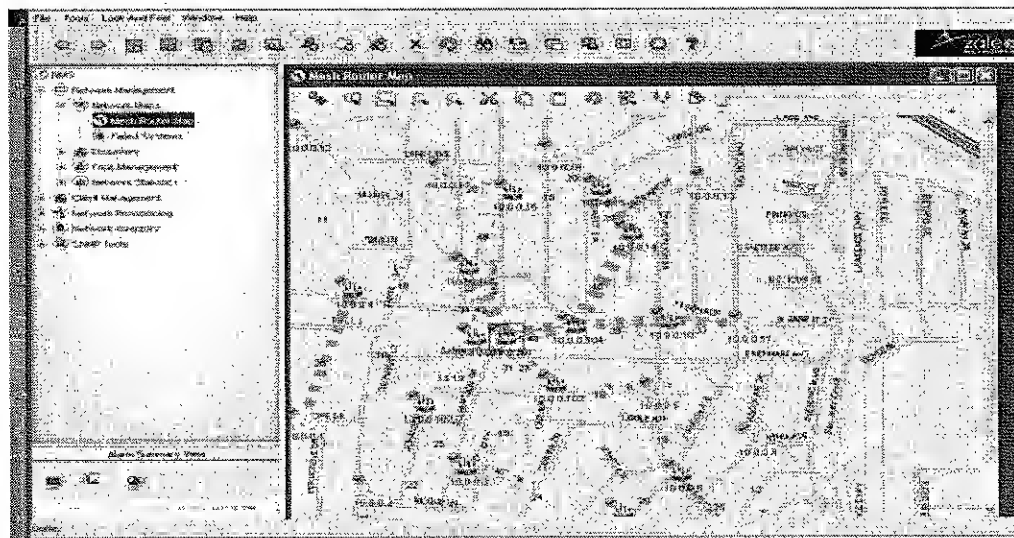
traffics hops	HT40		
	A->C	C->A	bi- direction
1 hop	250.08	220.31	226.70
2 hops	227.34	194.53	222.07
3 hops	225.00	196.69	222.07
4 hops	225.00	192.28	208.19
5 hops	225.00	192.19	198.94
6 hops	215.63	185.52	189.69

### Network Management

A self-discovering, self-configuring, self-forming, self-optimizing, self-healing and otherwise self-managing intelligent wireless network dramatically reduces daily operational management responsibilities. Aruba Mesh includes a carrier-grade network management system that enables centralized, real-time monitoring and management of the City's entire wireless network infrastructure. The Aruba Mesh Network Management System (NMS) features an intuitive and easy-to-use graphical user interface, which shortens the learning curve for and enhances the proficiency of network administrators. Because Aruba Mesh's NMS conforms to SNMP standards, it can be integrated with enterprise or carrier network management platforms if required.

The Aruba Mesh Network Management System utilizes real-time mapping technology to generate visual representations of the network's topology. To create the map, the NMS automatically discovers all nodes and uploads their configuration information into a centralized database, which is updated periodically at an interval determined by the network operator. The NMS also automatically collects and stores performance information for each node, including its signal intensity, data rate and link quality. The map's background can even be customized with the location of all nodes placed where actually deployed, which is especially valuable in outdoor deployments. From this network-wide view, administrators are able to monitor overall traffic conditions, and "zoom in" on specific nodes and links to obtain more detailed information. XLM API capability enables cost-effective integration of valuable location data with other applications.

The NMS also collects information about every Wi-Fi client accessing the network, including its MAC address, IP address, signal intensity, data rate and traffic status. Additional NMS features include a fault management system for issuing alarms and logging events according to a set of customizable filtering rules, along with centralized and version-controlled remote updating of the Aruba Mesh Operating System software.



To maximize efficiency the Aruba AirWave, and meshConfig management software will be installed on two HP servers at our location prior to the bench test and burn-in process. Network addresses and security measures will be programmed per information provided by the City at this time for both the Network and SDOT-ITSN management servers.

#### **Police HQ Internet Connectivity**

We currently have a presence in the Westin building which enables us to provide a direct fiber internet solution for the police HQ in the Seattle Municipal Tower. This will allow nearly limitless throughput potential for future expansion and can be configured in minutes should more bandwidth be needed in an emergency situation. At the head end a highly capable Watchguard XTM 5 series firewall has been included in our proposal to deliver the security and protection that sensitive government and public safety networks demand.

#### **Concerns, risks, and recommendations**

Due to the requirement to utilize City labor for all installation there is a risk that the deadline will not be met. We are well versed in microwave wireless, CCTV, and fiber plant operations and will provide necessary training to all City crew members but have little or no control over their aptitude or work ethic. The number of crews involved will also directly affect the rate at which we are able to maintain progress and meet our project goals. In our 12 years of field experience, we have found the best approach to a project of this size is to utilize multiple crews for each aspect of the project. Having one crew prep the mounting locations with power, another to secure fiber connectivity where needed will enable the installation crew to mount the cameras and mWAP radios more efficiently than if they had to perform all tasks at the installation site. Each crew will get up to speed faster and will have significantly less delays than a single crew. In the event that obstacles are encountered, only one of the crews would be delayed while headway continues to be made on other locations.

There are aspects of this RFP that not only limit our ability to control the progress of work, but in some cases our ability to regulate the performance of the network as well. For example, we do not know what the condition, location, availability, or method of access is available in regards to the fiber backbone at the various sites across the city. Each location could potentially have a very different logistical environment that will make estimating time required very difficult without more information. Additionally there are concerns regarding the current power available at the light pole locations. If the power is centrally switched then a reliable, constant power source will need to be provided. Depending on the location of the switching points this could potentially be a time consuming process that would hold up installation efforts.

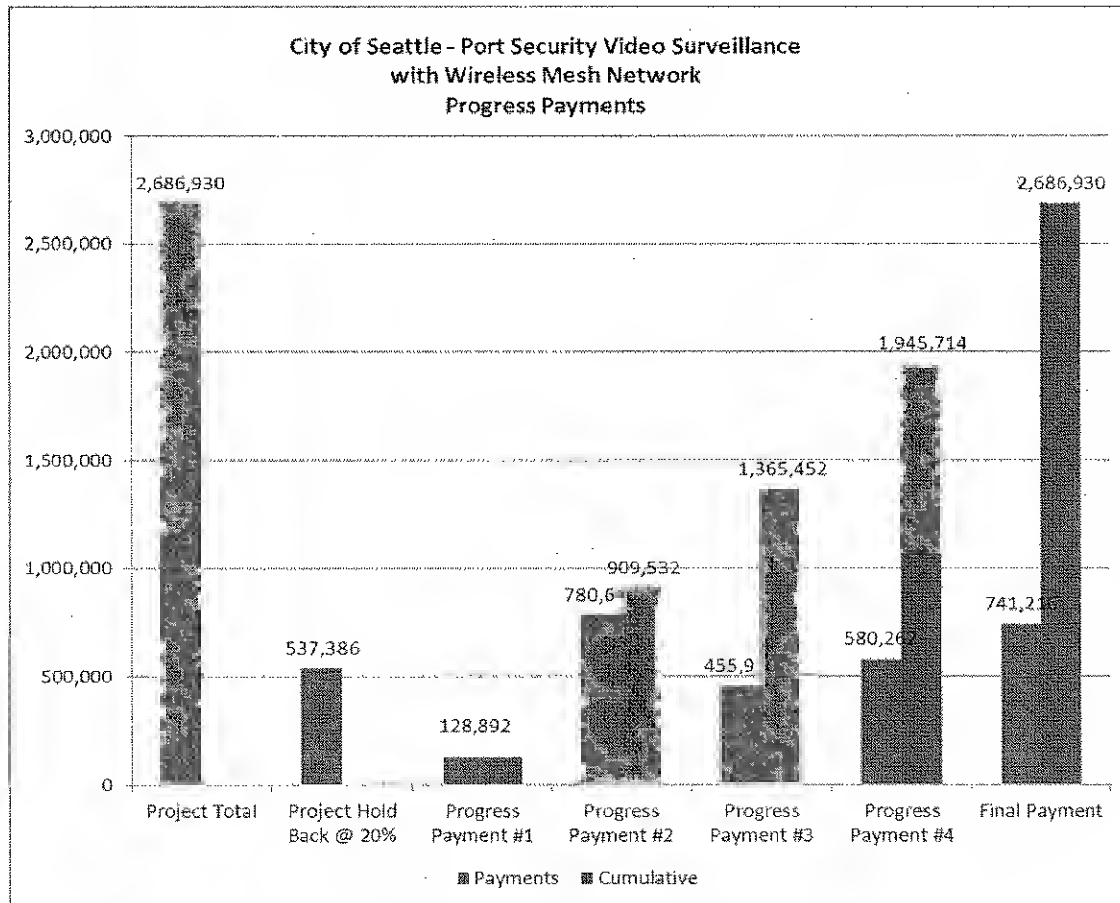
#### **6.2.2 Project Schedule and Progress Payments**

Vendors must provide a comprehensive project schedule to cover the period from contract execution through 12/15/12 and must include:

- Comprehensive list of tasks, activities,
- Tasks and activities interdependence
- Milestones
- City approval points
- Progress payment schedule with a minimum of 20% of the total cost to be paid after the City's written acceptance of the Project.

**PROJECT SCHEDULE ATTACHED, PROGRESS PAYMENT PLAN BELOW**

CITY OF SEATTLE  
Request for Proposal # DIT-2996  
Port Security Video Surveillance System  
With Wireless Mesh Network



**Progress Payment Rationale:**

Project Hold-Back of 20%	Deducted from Planned Progress Billing until Final Payment
Progress Payment #1	80% of Fees for Installation and Acceptance of: <ul style="list-style-type: none"> <li>• Network Management System</li> <li>• Video Management System</li> <li>• Rainier Avenue WAPs</li> </ul>
Progress Payment #2	80% of Fees for Installation and Acceptance of: <ul style="list-style-type: none"> <li>• 30 Fiber-Connected WAPs in Priority Area 1</li> <li>• 6 Marine Cameras</li> </ul>
Progress Payment #3	80% of Fees for Installation and Acceptance of: <ul style="list-style-type: none"> <li>• 55 Non-Fiber WAPs in Priority Area 1</li> <li>• 2 PTZ Cameras in Priority Area 1</li> </ul>
Progress Payment #4	80% of Fees for Installation and Acceptance of: <ul style="list-style-type: none"> <li>• 70 WAPs in Priority Area 2</li> </ul>
Final Payment	80% of Fees for Installation and Acceptance of: <ul style="list-style-type: none"> <li>• 25 WAPs in Port, West Seattle and North Seattle</li> <li>• 28 PTZ Cameras in Port, West Seattle and North Seattle</li> </ul> 20% Holdback of Total Project Fees for Full System Test and Acceptance

### 6.2.3 Project Organization and Personnel

Vendors must provide a Project organization chart identifying and showing the relationships between the Vendor, subcontractors, manufacturers and suppliers.

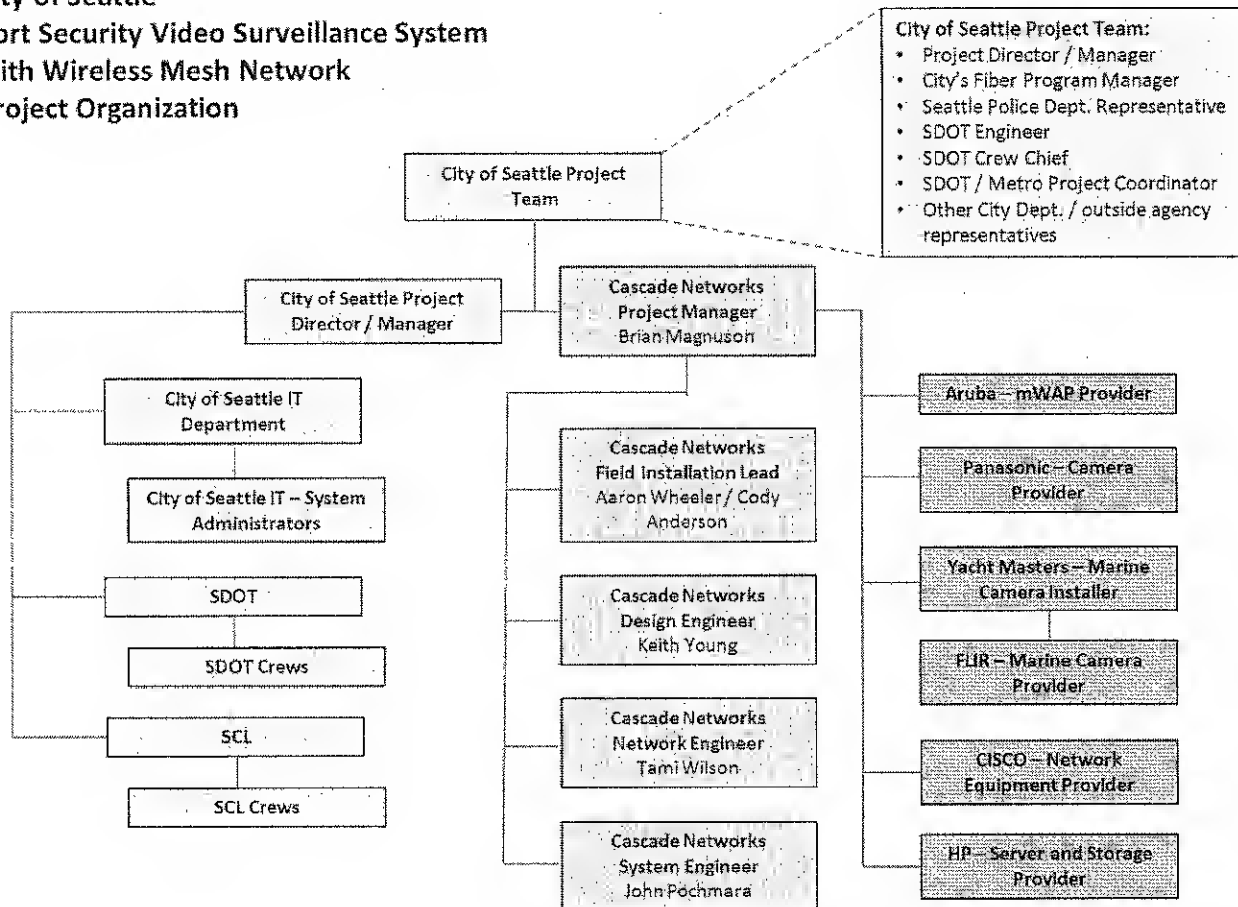
Key personnel to be assigned to the project by the Vendor and by any subcontractor, manufacturer or supplier should be identified and resumes provided.

Proposals must designate a project manager who will have overall, daily responsibility for the project. This person will be responsible for coordinating with the City project manager. Vendors must also designate a field wireless engineer/technician that will lead the combined City/Vendor field team in the installation of the system.

Proposals must include a resume of the Vendor's project manager and field engineer/technician. The City requires that the Vendor's field engineer/technician be available such that installation in coordination with SDOT (see Section 2.2 above), testing and integration services may be performed by the Vendor seven (7) days per week until December 15, 2012.

The City retains the right to reject proposed project personnel.

#### City of Seattle Port Security Video Surveillance System with Wireless Mesh Network Project Organization



### **Firm Description**

Cascade Networks was founded in 2000. Initially the company operated exclusively as a Wireless Internet Service Provider offering Wireless Internet service along the I-5 corridor in Washington and Oregon. Over the course of last nine years Cascade Networks has matured into a multifaceted business with a business model which includes VoIP and IPTV service offerings, communications equipment resale, integration and manufacturing.

Cascade Networks, Inc. specializes in providing robust data solutions in geographically challenging environments for a clientele that ranges from the enterprise to a broad base of residential users. Cascade Networks maintains a very broad portfolio of products and services and we are confident in stating that there is not a market we cannot support. Current services include:

- Fiber Optic Connectivity
- Wireless Internet Connectivity
- Airport & Seaport Network Infrastructure Design / Build
  - Security command & control, video surveillance, access control (TWIC)
  - Hosting and Co-Location Services
  - Network Consulting
  - Tower Construction and Maintenance
  - Two-Way Radio Service

Cascade Networks also operates under the DBA of Last Mile Gear. Last Mile Gear is an award winning manufacturer and reseller of wireless networking hardware. Last Mile Gear is best known as the manufacturer of the Cyclone line of hardened Access Points, Backhauls, Antennas and Timing Devices all of which are fully compatible with the Motorola family of products. Since its inception in 2002 Last Mile Gear has been dedicated to building the most robust hardware available within its market segment while offering the best customer service and support possible.

Building on our core competencies of network design, installation and management, Cascade Networks has developed an integration capability focused on large scale design and deployment of wireless and fiber networks and the mission-critical applications that run on those networks. These include video surveillance, access control and asset tracking.

Cascade Networks employs 30 associates in Longview, WA, covering all the disciplines necessary for supporting our clients – from design through installation to support service and warranty service. We maintain an inventory of installation-ready and spare equipment worth over \$1 million in our 60,000 Sq. Ft. facility.

Cascade Networks has been a Cisco Registered Partner Select since 2009 and recently elevated to Cisco Select Certified Partner.



## **Cascade Networks Key Personnel - Resumes:**

### **Cascade Networks, Inc. – Project Manager**

#### **Brian Magnuson (President):**

Brian will work directly with the City's Project Director / Manager to insure that the project specifications are met and that the City staff is ready to take on operational control of the system following installation.

Brian has over 25 years of experience building out large-scale wireless and fiber optic networks and direct experience installing and testing the key security applications that run on those networks such as TWIC / Access Control, Video Surveillance, Asset Tracking. Founder and President of CNI, Brian has been co-chair of the Motorola Technical Advisory Board since 2006. Developed Cyclone, a successful line of environmentally-hardened PTP and PMP wireless equipment deployed in harsh environments world-wide.

#### **Representative Projects:**

##### **Port of Stockton, CA**

Network Design, Installation and Support

In 2010 we designed and installed a hybrid wireless and fiber optic network covering the entire Port of Stockton, a Tier 1 Secure Port under Department of Homeland Security criteria. The network provides Motorola MESH access to the Port Police across the 2000 acre site, both for fixed and mobile connection, including high-speed vehicle connection through Motorola Vehicle-Mounted Modems (VMMs). All port communications are brought to the network operations center via a Motorola PTP800 licensed backhaul which we engineered, licensed, and installed.

In 2011, we designed and installed an inter-operative digital radio system that enables the Port Police and Operations to communicate more effectively on site as well as allows the Port Police and the surrounding Stockton Public Safety agencies to maintain secure and reliable communications utilizing a combination of Motorola radio equipment and Avtec control consoles.

Russ Nicholas: 209-649-9987, RNicholas@StocktonPort.com

##### **Atlanta Hartsfield-Jackson International Airport, GA**

In 2010, Cascade Networks, Inc. teamed up with Sensis Corporation to design and install a full-site wireless network for Atlanta Hartsfield-Jackson, the busiest airport in the world. The network consists of Motorola PTP 800 backhauls as the backbone, with Motorola PMP430 and PMP120 Access Points, SM's and MOTOMESH Duos forming the body of the network. The initial application running on the network is used for coordinating all planes on the ground and all ground vehicles serving the planes to increase plane turnaround time. The network, combined with Sensis Corporation's sensors and Vehicle-Mounted Modems, provides real time, centralized GPS mapping for coordinating the hundreds of planes and support vehicles operating daily at ATL.

Howie King: 315-877-7427, Howie.King@Sensis.com

### **Port of Longview, WA**

In 2009, Cascade Networks, Inc. installed a Wireless Network and Video Surveillance System for the Port of Longview, WA. The system was designed to increase the Port's Domain Awareness for both Operations and Security. The Wireless Network was equipped with Motorola MESH and PTP radios and the Video Surveillance System utilized 17 SONY PTZ and Fixed cameras with an OnSSI Video Management system. CNI also provided 24/7 technical support to the Port following installation.

Darold Dietz: 360-425-3305

### **Cascade Networks, Inc. – Field Installations Leads**

#### **Cody Anderson**

Senior Outside Plant Foreman

Years with company: 5

Years of relative experience: 6

**Experience Summary:** Serves as Lead Foreman on majority of Cascade Networks wireless and fiber optic commercial installations and outside plant construction.

- Served as Lead foreman on the following projects for CNI:
  - Cowlitz PUD- Sub-Station Project 2007 - present: Was the on-site foreman in charge of splicing and construction of a 38 substation fiber optic infrastructure. Used for security, SCADA, and an Automated meter reading system.
  - Lower Columbia College Project 2008: Was on site foreman during a re-infrastructure build resulting in a new fiber optic network dedicated for the college.
  - Export Grain Terminal 2011: Performed the majority of fiber optic terminations, testing, and documentation for the Nation's most advanced grain export facility.
  - Clatsop County Emergency Communications 2010 - 2011: Responsible for installation of a series of licensed frequency microwave links, tying together emergency communications tower sites along the Oregon Coast.
  - Port of Longview Wireless Network 2010: Member of a team of installers installing a video surveillance system via a wireless network. The system provided the necessary video security required for an international seaport.

-Relevant Experience prior to CNI - Cherrier Construction 2005 - 2006

#### **Training & Certificates:**

- Exfo OTDR Certified Tester - Nov. 2010
- ComTrain Certified Tower Climber - Jan. 2008
- RSI RF Best Management Practices Feb. 2009
- ARC/GIS Mapping certification Mar. 2010
- Flagger Certification - June 2009
- CPR Certification

**Aaron Wheeler - Installer**

Years with the Company: 5 years

Years of Relevant Experience: Computing and networking 8 years. Wireless 5 Years. Electronics 5 years. Fiber 4 years. Tower Climbing 4 years.

Experience Summary:

- Projects with company:
  - Port of Portland, OR – Repair and optimization of Canopy Wireless Surveillance Network
  - Port of Brownsville, TX – Installation of Motorola PTP400, PTP600 and Sony Surveillance cameras
  - Regional wireless and fiber optic installation
  - Product Development
    - Ruggedizing outdoor Access Points – manufacture and testing.
    - Timing modules – CTM – CMAX
    - VoIP PBX equipment
- Prior Relevant Experience:
  - Telecom equipment installation
  - DC Power Plants
  - Level 1 & 2 Installer

Certifications / Training Completed:

- RF Certification
- ComTrain LLC. - Tower Climbing Safety & Rescue.

**Subcontractor – Yacht Masters NW**

Yacht Masters Northwest has been located in the Pacific Northwest for over thirty five years. Their waterfront location on Lake Union provides easy accessibility to their 6500 sqft. shop and office facility. Their reputation is built on years of quality work and building strong committed relationships with their customers.

Their expert staff of certified marine electricians provides a wide range of electronic and electrical system installation and integration for all types of navigational and control equipment.

The cabinet shop provides cabinet makers and shipwrights for custom designs and refits. Complete renovations to 110 foot vessels have been done at their location.

Installations are all done by our experienced staff of full time certified technicians. Air and hydronic heating, air-conditioning, waste management, audio visual, CCTV, and communication are all specialty systems we provide for our customers.

**Subcontractor Inclusion Form – Yacht Masters – Included in Section 3 – Vendor Questionnaire**

#### 6.2.4 Vendor's and City's Responsibilities

Notwithstanding the detailed information contained in this RFP, it is the responsibility of the Vendor to supply a fully functional Port Security Video Surveillance System as specified.

Vendors must state their willingness to accept this responsibility.

#### UNDERSTOOD AND AGREED

The Vendor must submit a list of functions, tasks, facilities or equipment that the Vendor expects the City to perform. This list will be the City's responsibility. Any function, task, facility or equipment that is not included on the list will be the Vendor's responsibility and included in the Basic Price.

Responsibility / Task	City of Seattle
Supply Installation Personnel	X
Management of Installation Personnel to agreed upon schedule	X
Installations conducted according to training specs	X
Supply required vehicles to Installation Personnel (i.e. Bucket Trucks)	X
Secure storage space for staging equipment ready for installation	X
Prompt review and decision regarding proposed final design and any escalated issues	X
Prompt payment of approved invoices	X
Provision of Contiguous 40U of Rack Space at SPD HQ	X

#### 6.2.5 Coordination with the City Project Team

The proposal should describe how the Vendor will coordinate with the City's Project Team that consists of:

- Project Director/Manager
- The City's Fiber Program Manager
- Seattle Police Department's representative
- The SDOT Engineer
- The SDOT Crew Chief
- The SDOT/Metro Project coordinator for rapid Ride Program
- Other city departments/outside agencies mesh wireless network user

### Project Communication and Coordination Matrix

Cascade Networks strives to keep our client stakeholders as involved and informed as possible while utilizing their valuable time as efficiently as possible. The following is the basic structure of communication and coordination activities, which is also supplemented by field reviews as required:

Type of Communication	Communication Schedule	Typical Communication Mechanism	Who Initiates	Recipient
Status Report	Weekly	Team meeting	CNI Project Manager	Project Team
Schedule and Effort Tracking Report	Weekly	Email	CNI Project Manager	Project Team
Project Review	Monthly	Team Meeting (takes place of Weekly Status Report that week)	City Project Manager	Project Team
Risk Mitigation Status	As mitigation actions are completed	Email	CNI Project Manager	City Project Manager
Requirement and Scope Changes	As changes are approved	Email and change control tool	CNI Project manager	Affected Project Team Members
Acceptance Reviews	At project milestones	Face to face	CNI Project Manager	Project Team

#### 6.2.6 Relationship with Equipment Supplier and Warranty

- For the wireless Access Point and the Camera equipment, please state the relationship with the proposed equipment supplier.
  - o Cascade Networks, Inc. is a manufacturer approved value added reseller of both Aruba Wireless and Panasonic security cameras. Yacht Masters Northwest is a manufacturer approved reseller and installer of FLIR maritime thermal cameras and will be subcontracted for the supply and installation of the marine thermal cameras.
- All equipment proposed to and acquired by the City must be new, of current design and manufacture, be the best of their respective kinds, and meet or exceed applicable standards. All proposed equipment is of current design and manufacture, are without a doubt the best of their kind, and meet or exceed the standards set forth in this RFP.

- The proposed mWAP and Camera equipment supplier must state that it has no current plans for announcing a replacement line which would be marketed as replacements for the equipment proposed.
  - o **Aruba Wireless, Panasonic security cameras, and FLIR Systems have no current plans to announce replacement product lines which would be marketed as replacements for the mWAP and Camera equipment included in this proposal.**
  
- The proposed mWAP and Camera equipment supplier must warrant support for the proposed equipment line for at least 7 years.
  - o **Aruba Wireless, Panasonic security cameras, and FLIR Systems are warranted for 3 years as standard and offer warranty support extensions for up to 8 years total.**

#### **6.2.7 Relationship with Subcontractors and Material Suppliers**

The Vendor shall state all proposed subcontractors and/or material supplier. If the Vendor will not be using subcontractors and/or material suppliers, state so.

- **Yacht Masters Northwest will be subcontracted to supply and install complete solutions for the marine camera portion of this bid. With 30 years of applicable experience and a current working relationship with Harbor Patrol, Yacht Masters is the ideal partner for this segment.**

#### **6.2.8 Permit and License**

- City will be responsible for permits to use SDOT and SCL poles needed for the Project.
- Any other permits and licenses needed for the Project, except mentioned in this section of the RFP, will be the responsibility of the Vendor. The Vendor shall also be responsible for these permit and license costs.
- Please state the proposer's willingness to take on these responsibilities.

#### **UNDERSTOOD AND AGREED**

#### **6.2.9 Delivery and Storage**

The Vendor shall be responsible for delivery of all equipment, software, supplies and materials, including any loss or damage. The Vendor must state its concurrence with this specification.

## **UNDERSTOOD AND AGREED**

The Vendor shall be responsible for storage and staging of all equipment, software, supplies and materials. The Vendor must state its concurrence with this specification.

## **UNDERSTOOD AND AGREED**

### **6.2.10 Installation and Testing**

The Vendor must state its concurrence with these specifications.

- Unless otherwise specified, the Vendor must furnish all labor, equipment, materials, wire, cable, conduits, outside plant, transportation, and supplies necessary to complete the Project in a satisfactory manner in accordance with the plans, specifications and terms of this RFP. All installation work shall be performed in coordination with SDOT (see Section 2.2 above), by qualified technicians, and in accordance with applicable standards.
- Any pole mounting hardware must receive prior approval from pole owners.
- Unless otherwise specified, the Vendor must supply, furnish, fabricate or otherwise provide all tools, installation equipment, and test equipment that are required for completing the installation and implementation of the Project.
- Unless otherwise specified, the Vendor must apply for and obtain all necessary permits and approvals from the appropriate City departments and other regulatory agencies. Costs of these permits and approvals must be paid by the Vendor. The Vendor should not assume that City permits are automatic. The Vendor must comply with the procedures governing City permit application processes.
- The Vendor will have access to City facilities in order to carry out the required work. The City shall obtain approvals for initial access to non-City facilities. Access to all facilities must be coordinated with the Project Director/Manager.
- All work and materials must comply with all applicable Federal, State, and local laws, ordinances and regulations. If there is a violation, the Vendor must make corrections at no cost to the City.
- Quality of work and neat appearance is important.
- All major items of equipment installed must be marked with a City "property control number." A list of numbers, and the corresponding equipment type, manufacturer, model number, serial number and location will be required at the "Review" phase of the acceptance procedure. The

numbers will be supplied by the City, the Vendor must apply the number (sticker or engraving) as specified by the Project Director.

- The Vendor shall be responsible for replacing or restoring to original condition any damage to floors, ceilings, walls, windows, doors, fixtures, furniture, grounds, pavement, roofs, building exteriors, mechanical and electrical systems, etc., caused by its personnel and operations. Any damage or disfiguration will be restored at the Vendor's expense. The Vendor shall be responsible for all out of service, injury, and damage claims billed by third parties for damage caused by the Vendor.

**CASCADE NETWORKS, INC. UNDERSTANDS AND CONCURS WITH THE INSTALLATION AND TESTING CRITERIA STATED ABOVE.**

**6.2.11 Acceptance Procedure and Testing**

The Vendor must state its concurrence and describe how it will meet this specification.

- When the Network is delivered, installed, operating, and fully tested by the Vendor, the Vendor shall notify the Project Director in writing and request the commencement of the acceptance test. In the notice requesting the acceptance test, the Vendor shall certify to the Project Director that the contract specifications have been fully completed and that the System is ready for acceptance.
  - o We concur. A written notice will be sent to the Project Director when the Network is ready for acceptance testing, and will include a certification that the contract specifications have been fully completed.
- The certification shall include a complete list of the equipment and software installed, and the results of test showing that hardware, software, units, subsystems, and systems meet or exceed the manufacturer's recommended standards.
  - o We concur. Our project manager will work closely with manufacturer representatives during the testing phase and will include results per their standards into our written notice.
- The certification shall also state that no mechanics or other liens are of record upon said equipment or software for work done or materials furnished by any person or persons for or on behalf of the Vendor, any Subcontractor, or their employees, and that no claim or demand exists in favor of any person or persons for work done or materials furnished or supplied in the performance of the contract. This certification must be signed by an authorized officer of the Vendor.
  - o We concur. An authorized officer of our company will sign a document stating the absence of any liens or claims against work done or equipment and materials furnished.



- The certification shall also state that end-to-end contracted applications have been completed with test documentation.
  - o **We concur. Test documentation will be included as specified.**
  
- Review: The City will start its review within five (5) working days after receipt of the Vendor's certification. The review, conducted by the Vendor in the presence of the Project Director, must consist of, but is not limited to, the following:
  - I. Review of installed inventory
  - II. Review of application of City property control number
  - III. Review of field test records
  - IV. Review of application test records
  - V. Review of personnel training record

The review must show complete compliance with the specifications before the performance test will begin.

At the satisfactory completion of the review, the Project Director will certify that all elements including documentation and training have been delivered or installed. A short list of minor items which are found to be missing, inoperable or unacceptable may be prepared by the Project Director.

Review certification will not be issued if the list is unduly long or if any item is deemed by the City to be service affecting. The Project Director will decide whether to certify the review.

- o **We concur. Our project manager will accompany the Project Director during the review and will take notes and photos in regards to any items which are found to be missing, inoperable, or unacceptable.**
- 
- Performance Test  
The Vendor, in consultation with and with the approval of the Project Director, shall prepare a plan that will fully test whether the System meets the functional and performance specifications.

The Vendor will operate the System during the performance test with the City personnel recording the results. At the satisfactory completion of the performance test, the Project Director will certify that the Network met the functional and performance criteria of the specifications during the performance test, and that the reliability test may commence. A short list of minor items which are found to be missing, inoperable, or unacceptable may be prepared by the Project Director. Performance certification will not be issued if the list is unduly long or if any item is deemed by the City to be service affecting. The Project Director will decide whether to certify the performance test.

- **We concur. Performance testing will be performed as required with City personnel.**
- **Reliability test**  
When the performance test has been successfully completed and certified, the System will be placed into operational use and the Project Director will authorize the Vendor to begin the reliability test. The Vendor, in consultation with and with the approval of the Project Director, shall prepare a reliability test plan that will fully test whether the System meets the functional and performance criteria specified and that will demonstrate that the System can perform acceptably, 24 hours a day, for at least ten (10) consecutive days. If a major failure occurs at any time during the reliability test period, the test shall be terminated, the appropriate repairs or replacements completed, and the reliability test period started over.
  - **We concur. Collaboration with the Project Manager and representatives of the various manufacturers, a comprehensive reliability test plan will be developed that will ensure the system meets the functional and performance criteria specified upon acceptance.**
- **Final acceptance** The Project Director will evaluate all reliability test results and prepare a Final Acceptance decision letter within five (5) working days after successful completion of the reliability test. The decision may be to accept or not accept. The decision will be to accept unless there is an extensive list of minor items that need correction or if any item is deemed by the City to be service affecting. An acceptance letter may be accompanied with a short list of minor items that must be satisfactorily completed within a specified time period acceptable to the City. A decision to not accept will be followed by a letter to the Vendor setting forth the reasons for the non-acceptance. When corrections are made, the Vendor shall deliver a letter explaining the corrections and a statement that the Network is ready for retesting. A subsequent ten (10) day reliability test may be started or the specification may be waived by the Project Director.
  - **We concur. If a list of minor items to be completed is submitted by the Project Director, our project manager will coordinate with appropriate personnel to address each item to the acceptance of the Project Director. The same actions will accompany a letter of non-acceptance with each item being completed to the approval of the Project Director.**

#### **6.2.12 Documentation**

The Vendor shall provide with the proposal a list of documentation to be delivered to the City.

#### **UNDERSTOOD AND AGREED AS LISTED BELOW:**

1. Complete As-Built Drawings
2. Complete listing of equipment installed by location including:

- a. Make, Model and Serial Number
  - b. IP Address
  - c. MAC Address
  - d. All other configuration settings
3. Training manuals for system operation
  4. Maintenance manuals for each model of radio and camera

### **6.2.13 Training**

The project plan must include a local training plan which addresses, at a minimum, the following needs:

- System Administrator Training (up to three trainees)
- End User trainer training (Up to 10 trainees)

#### **System Administrator Training**

The System Administrator Training will be conducted locally and will cover the following areas:

##### **Cisco Basic Switch configurations and IP/vlan implementation**

- Basic design training
- Basic configuration training using CLI
- Understanding of vlan delivery
- Understanding of IP delivery
- Understanding of Security and how it is applied to the switches being deployed
- How to do upgrade and basic troubleshooting

##### **Aruba Administration**

- Mobility Controller initial setup and licensing using ArubaOSwizards
- Using ArubaOS RF Plan to place access points and air monitors in a wireless snetwork
- Provisioning Aruba thin APs using wizards and the GUI
- Using WLAN policies to create a Secure Employee WLAN with 802.1X
- Using WLAN policies to create a Secure Guest WLAN with Captive Portal authentication
- Remote Access Point (RAP)
- Overview of Aruba OS GUI and CLI commands

##### **Panasonic Camera Administration**

- ipConfigure's IPVS Train consist of providing knowledge for implementing and managing an IP video surveillance solution.
- Attendees will be trained on the setup, configuration, and use of ipConfigure's Enterprise Surveillance Manager 5.2 application.
- Overview of exiting network
- Configuring and monitoring exiting equipment
- Provide a basic understanding of events and error messages provide by the management system

### **User Train-the Trainer Training**

Content will be developed and provided by both CNI and our vendor partners. There are three phases to the Trainer Staff training:

1. Unit Training: Consists of how the radios and cameras work and how to maintain or replace the devices.
2. Integration Training: Finding individual radios on the mesh, basic set-up, diagnostics and basic troubleshooting exercises.
3. Full System Training: Full system monitoring, diagnostics, log reporting and analysis and advanced troubleshooting and problem-solving exercises.

### **Installation Overview**

1. Requirements for WAP Installation
  - a. Weatherization
  - b. Antenna installation
  - c. Power requirements
  - d. Network requirements
2. Requirements for Camera Installation
  - a. Operation
  - b. Configuration
  - c. Storage and retrieval
  - d. Optional settings

### **Equipment Overview**

1. Locations of Equipment
2. Types of Equipment
3. Capabilities of WAPs
4. Finding WAPs on the Mesh
5. Diagnostics and basic troubleshooting exercises

### **Training Users in Mobile Connecting:**

Training on connecting to and use of the system will be designed to be provided to the necessary city employees. This training will be approximately 1 hour in-class and 1 hour of field training per group.

- 1) Establishing a connection with the Network
- 2) Access City Email
- 3) Access shared resources
- 4) Access Internet
- 5) Access IP Cameras
- 6) Re-establish a network connection
- 7) Timed shutdown of the workstation

At the completion of this training, the Public Safety users should be able to show competence in the following activities:

- 1) Log-on and connect with to the network through their device (laptop etc.)
- 2) Update their own password as needed
- 3) Test the strength of their connection to the network
- 4) Access needed remote data and programs
- 5) Conduct basic troubleshooting regarding possible connectivity issues
- 6) Log-off the system properly

#### **6.2.14 Warranties**

The System must be warranted by the Vendor to be free of defects in software, hardware, materials and workmanship for a period of three (3) years following Final Acceptance by the City.

During the warranty period, the Vendor must replace or repair any defective items at no cost to the City. The Vendor also must provide all maintenance during the warranty period at no additional cost to the City.

Vendors must include this warranty in their proposals, and must describe how repairs and service will be provided during the warranty period. The following specific areas must be addressed

- The number of qualified service personnel who can meet the response time as follows:

Total failure:	4 hours or less
Major failure:	4 hours or less
Minor failure:	8 hours or less during normal business hours
- Preventive maintenance - as scheduled by City

A total failure is a condition which renders the System unusable; a major failure is a condition that 10% of the System is rendered unusable; a minor failure is any other failure of the System

- Adequate spare parts must be stocked in the Seattle area to ensure rapid restoration of service in the event of a failure.
- Trouble logs must be maintained by the Vendor and made available to the City.
- The Vendor must have a procedure for calling in manufacturer's technicians to provide technical assistance, and must describe this procedure

#### **UNDERSTOOD AND AGREED**

#### **6.2.15 Maintenance**

The City may maintain the System after the warranty period, or may contract with the successful Vendor to provide post warranty maintenance. The Vendor must commit to maintain the System for five (5) years after the warranty period. Price commitments must be included in the Financial Proposal.

The City will consider two options for Vendor provided post warranty services.

- Full maintenance services by the Vendor at a guaranteed maximum annual cost to the City. This includes maintenance service for all equipment and software, and includes, but is not limited to, spare parts, materials, labor, software, testing equipment, tools, etc., necessary to fully support the Network.

Proposed maximum annual cost to City of Seattle = **\$350,000**

- On-call maintenance services from the Vendor, with City payments based on time and materials. Under this option, the City will maintain the Network after the warranty period with the Vendor providing services as required by the City. This option includes maintenance services for all equipment and software. Proposed labor rate for Time and Material Option = \$\$\$ / hour
  - o **See Financial Proposal for 5 year projected hourly rates**

In the Financial Proposal, the Vendor must list all parts and diagnostic equipment that the City should have on-site to maintain Network.

The Vendor must commit to 24 hours spare parts delivery. The Vendor must also commit to a telephone consulting service, seven days a week, 24 hours a day (equipment and software consultation and troubleshooting).